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ONTARIO  
DEPARTMENT OF EDUCATION

Plans for  
Rural School Buildings

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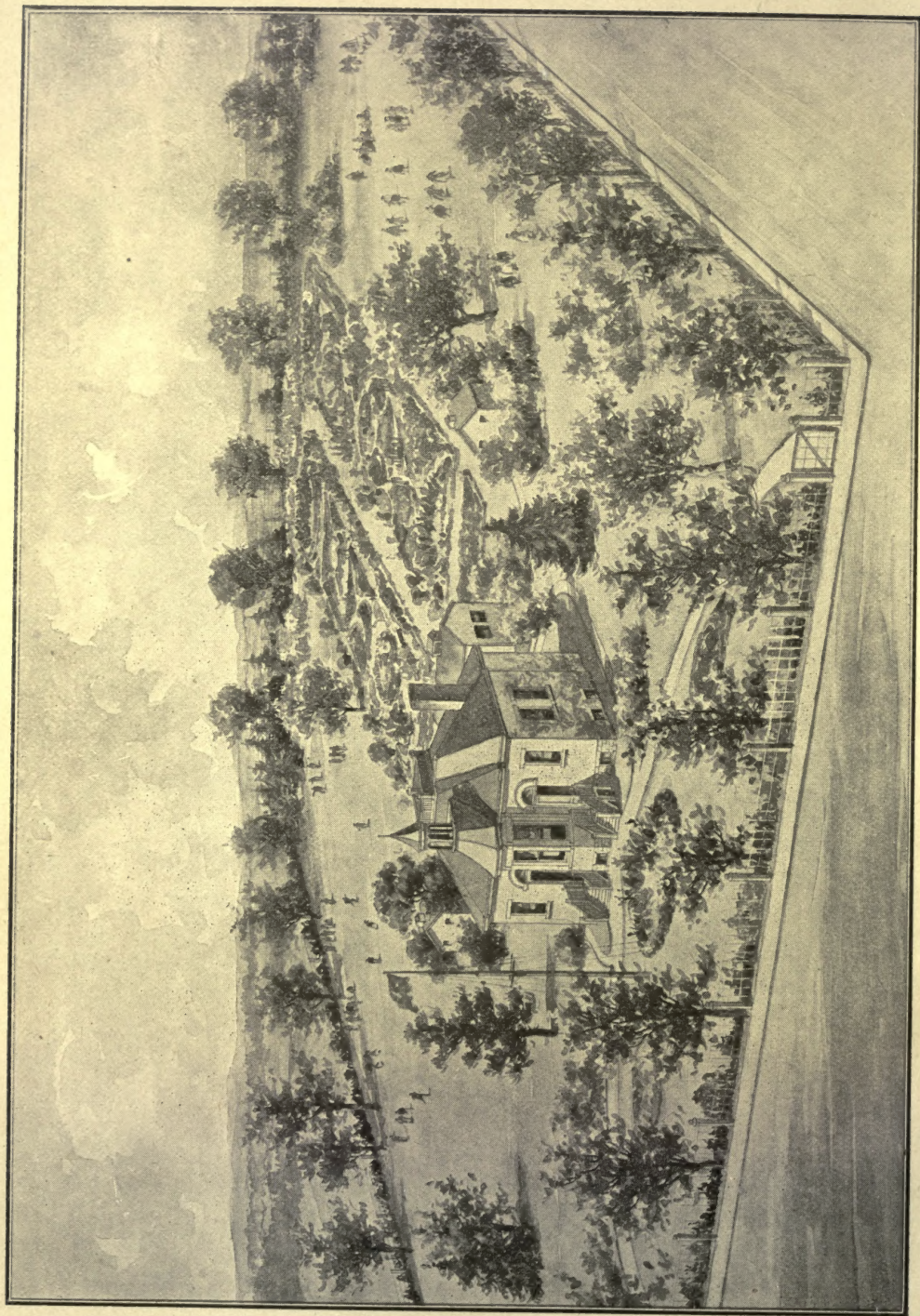


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A Model School Building, Grounds, and School Gardens.



# Plans for Rural School Buildings

With Estimates of Cost and  
Forms of Specifications  
and Agreements.



ONTARIO  
DEPARTMENT OF EDUCATION

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## The School Building.

"Show me your school-houses," said a shrewd farmer. "They will tell me more about the people of your township than I can learn in any other way. The school-houses have no prejudices, they speak the truth, and the whole truth, about the attitude of your municipality towards all that makes for genuine progress." That farmer was right. "Like people, like school," is true oftener than it is not.

The school is closely related to the home. The progress of the one should keep pace with the progress of the other. The log school-house belonged to the days of the log shanty with its trough-covered roof. The unpainted, box-shaped, dilapidated, desolate looking school should pass away with the log shanty and the old frame dwelling house we have outgrown. The houses of to-day indicate prosperity, comfort, and growing good taste. So should the school. We should build schools in keeping with our new homes, or, better still, with those we expect to have ten years hence. Moreover, we should have the best school-houses we can afford, and we can afford to have them a little better than the average home of the section. The new house, or barn, or stable, or pig-pen is not built on the same plan as the one of forty years ago. The farmer has seen something better than the old one, and so he builds, not according to the past, but for the future, and if possible he makes some improvement on what he has seen. So, too, the school-house should not be patterned after the old one, not even after the best one in the township, but after the best one that can be found in the Province.

And there are other and greater considerations. Architecture is the highest of the Industrial Arts, and the most useful of the Fine Arts. Its function is to please the eye as well as to satisfy the requirements of convenience and stability. The most perfect building, accordingly, is that which combines convenience, stability, and beauty. Of the public buildings in a community, the school building is the most important. If we are to cultivate the taste of the pupils and of the rest of the community, both it and its surroundings must be an example of taste, simplicity, and dignity in form and design.

But, in the matter of school architecture, trustees are handicapped. They do not themselves know from experience what the good points are, nearly so well as they know the good points of the farm and other buildings they use every day. To provide them with the help they need, this book has been prepared by the Department of Education. In addition to plans for schools with one, two, and three teachers it contains the

substance of the Departmental Regulations (Circular No. 33) regarding accommodations, in an amended form, with suggestions and recommendations to school boards. The plans are merely suggestive and may be modified with the approval of the Inspector to suit special conditions. For the further guidance of school boards this book contains also suggestions for colour schemes, an estimate of the cost of the different classes of school buildings, and draft forms of specifications and agreements.

### Construction and Site.

The school building should be well constructed of brick, stone, or cement, with brick partitions. It should have a southern or south-eastern exposure and shall be at least thirty feet from the public highway. Its site and its architectural appearance should also be most carefully considered. The entrance shall have a vestibule or covered porch, with doors swinging outwards or either way. At least in schools with more than one teacher there should be separate entrances and separate exits to the closets. Where there are two stories, the second floor shall be made sound-proof with mortar, felt, or other suitable material. A school bell and, in schools with more than one story, a fire alarm gong shall be provided. Every school should have, as a recreation room, a basement, at least seven feet high in the clear; ceiled with wood or metal sheeting, to keep the floors above warm (plaster obviously objectionable); and floored with pine, hardwood, or (preferably) cement. Cordwood shall be well dried before being stored in the basement. Where there is no basement, an adequate woodshed shall be provided, of wood, brick, or other suitable material, with proper doors and locks. The woodshed shall be stained or painted a suitable colour. Both a basement and a woodshed, being more sanitary, are greatly to be desired; the former to be used as a recreation room in inclement weather especially for the younger pupils, and the latter for the wood and other supplies. The basement should be four or five feet above ground, so that it may receive as much sunlight as possible.

### Class Rooms.

The class rooms shall be oblong; the length being greater than the breadth, to allow the pupils' seats to be arranged in a square, leaving a clear space in front of the teacher's desk; and the height being 13 feet. The classrooms shall seat comfortably all the pupils. A superficial floor area of at least 16 square feet, and a cubic air space of not less than 250 feet, shall be allowed for each pupil, this provision being based on the highest attendance. Hardwood is preferable for the floors and stairways. Any wood of such quality and grain as would suit for an oil or varnish finish will suit for the rest of the woodwork. Wood finish,



instead of plaster, also produces very satisfactory results. If calcimined, the walls shall be kept free from dust, and renovated when necessary. If painted, they shall be washed down and repainted also when necessary. Where it is difficult to keep the ceilings in repair, metallic sheeting should be used. All cracks and leaks in the plaster of the building should be repaired immediately. They are the lodging places for noxious germs of various kinds. Suitable colour schemes should be adopted for the halls and classrooms. For details see page 13.

In one-room schools with halls, cloak-rooms, etc., and in large schools, transoms, hinged at the bottom, shall be placed over the classroom doors. The doors shall swing outwards or either way. At least one waste paper basket shall be provided for each room, and the floors shall be kept in good order. A closet or a cabinet shall be provided for utensils used in school work; also a suitable bookcase, and shelving for lunch baskets or lunch pails. In order to cultivate the pupils' taste by suitable surroundings, the classrooms should be decorated, as soon as practicable, with good pictures and other suitable ornaments. Durable scrapers and mats shall be placed at the outside doors. In localities where flies are troublesome, wire screens should be provided for the doors and windows.

### Teachers' Private Rooms.

There should be a room for the private use of the teacher or the staff, of suitable size and comfortably furnished. At least in schools with more than one teacher, to be erected hereafter, private rooms shall always be provided.

The Departmental Regulation does not prescribe a private room for a one-room school. It is, however, very desirable that one should be provided. Most of our teachers are women, and it is only reasonable that they should have some place where they can make necessary changes or adjustments of their clothing, especially in stormy weather. Such a room is also available in case of the illness of any of the pupils. The slight additional expense of a private room should not deter the trustees from providing one. One of the plans with a private room should be selected; and, when one without is preferable in other respects, a competent architect can easily modify the plan.

### Halls.

The entrances, vestibules, and halls shall be roomy and well lighted, and, where there are more entrances than one, they shall be so placed as to admit of separate entrances for the sexes to the cap and classrooms. In buildings of two stories, there should be separate stairways for the sexes, easy of access and well guarded. In the hall, also, suitable colour schemes and decorations should be provided.

### Cloak-Rooms.

At least in schools with more than one teacher, to be erected hereafter, separate cloak-rooms shall be provided for the sexes. The exudations from damp clothing are a source of air pollution. The cloak-rooms, properly heated and ventilated, shall be convenient to the classrooms, and should be provided with wash basins and towels and with all the necessary appliances for storing umbrellas and for hanging caps or cloaks. Where there are no cloak-rooms or halls, there shall be a supply in the classrooms of hooks (one for each pupil) for caps, cloaks, etc. Curtains should be strung on rods or wires to conceal such clothing, and there should be a clear space of about a foot between the curtain and the clothing. Where this arrangement is unavoidable, the ventilation is of special importance.

### Desks.

Every school-house shall be seated with either double or single desks, having noiseless joints. Such single desks are preferable for sanitary reasons and to secure independent work by each pupil. The pupils' desks shall be fastened to the floor in rows facing the teacher's desk, with suitable aisles between the rows and with passages at least three feet wide between the outside rows and the walls of the school-room. The desks and seats shall be graded in size to suit the age of the pupils, those of the same size being placed in the same row. In each school-room the outer row on each side should consist of adjustable seats and desks, to be adapted to pupils below or above the average size. The pupil, when seated, must be able to place his feet fully and easily on the floor. The number of the desks shall be adequate for the number on the roll.

There shall be a suitable desk and chair in each classroom for the use of the teacher, and at least two additional chairs. The teacher's desk shall be provided with drawers or compartments having lock and key. There should be a table of suitable size (about  $2\frac{1}{2}$  feet by 10 feet), around which the younger pupils may assemble to do part of their work. Where Chemistry or Physics is taken up in a higher class, a suitable table shall be provided for the experiments. A sloping stand for the gazetteer and the large dictionary shall also be provided; or a shelf under the window nearest the teacher's desk, about 2 feet long by 14 inches broad, fastened to the wall and with a bracket below to sustain it. A suitable desk may be substituted for the shelf.

### Blackboards.

There shall be a blackboard of good quality, about four feet wide, extending across the room in the rear of the teacher's desk, with its lower edge not more than two and one-half feet above the floor or plat-



form; and there shall be additional blackboard provision on each of the other available sides of the room. Slate is greatly to be preferred to plaster or wood or hyloplate; it is the cheapest in the end. There shall be an adequate supply of blackboard brushes and crayons. At the lower edge of each blackboard there shall be a trough, about five inches wide, for holding crayons and brushes, and the dust. The troughs and brushes shall be regularly cleaned, a damp cloth or eraser being used for the troughs. The cloth or eraser, when dry, should be cleaned outside of the school-room. Each blackboard trough should have an open woven wire cover on hinges. *Every possible precaution should be taken against dust in the school-room.* Where there is a platform it shall be from five to six inches high and should extend across the room where practicable. Platforms, however, are now seldom used. Instead, a stool 12 in. by 42 in. and 6 or 8 in. high is provided for the teacher when he uses the upper part of the blackboard. If the top is hinged, the stool may be used to store various articles.

### Lighting.

Where practicable, the classrooms should be lighted only from the left of the pupils, the lower edges of the windows being above the heads of the pupils when seated (from 4 to  $4\frac{1}{2}$  feet from floor). Where there are supplementary windows in the rear the blinds shall be kept down, except on dull days. To admit of an adequate diffusion of light throughout the whole classroom, the windows shall be numerous (area, one-sixth of the floor space, where the exposure is good; otherwise a greater area), and of clear (*not ground or painted*) glass; narrow, with two or four panes each; and running as close to the ceiling, as close together, and as far to the rear of the classrooms, as practicable. To prevent reflection from the blackboard, the windows should begin about five or six feet from the front wall of the classroom. The windows shall also be provided with blinds of a light green or gray or greenish gray tint. The blinds on the left of the pupils should be semi-transparent; the other blinds, opaque. On dull days, windows that have already been provided on the right may be made serviceable; but, if at other times the light from the left is adequate, the blinds of the windows on the right should be kept down. The blinds shall be provided with cords so as to be readily adjustable to any required height.

Light from above is best; but light from the left is the best available, for it throws any shadow off the pupil's book or work. When, as directed above, the windows are run up to about half a foot from the ceiling, a good deal of the light on the left comes from above. To secure as much of this light as possible the tops of the windows should be square rather than curved. Light from the rear is objectionable, because it is in the teacher's eyes. Cross lights are injurious. *Where there are already*

*windows in front of the pupils, it is indispensable that they be closed up: such lighting is most injurious to the eyes.*

### Heating and Ventilation.

The temperature of the classrooms, halls, cap-rooms, and teachers' private rooms shall be, as nearly as practicable, 67 degrees. A Fahrenheit thermometer shall be provided for each classroom. The heating should be by steam radiators or hot air furnaces, or jacketed stoves acting with equal efficacy. Where stoves are used, they shall be so placed as to prevent discomfort to any pupil; shall be surrounded with a jacket of tin, zinc, or galvanized iron; and shall be furnished with a strong iron poker and shovel, and an iron pail for ashes. The stove-pipes and the chimneys shall be kept free from soot and dust. Both stoves and stove-pipes shall be polished at least three times a year.

Provision shall be made for an adequate supply of pure air at all times. The foul air shall be removed and the pure air supplied so that there shall be a complete change at least three times an hour. The windows of every school building shall be adjusted by weights and pulleys; and, when the outside temperature permits, they will provide the necessary change of air. At recess they may also be raised from below and lowered from above, according to the outside temperature. In cold weather, the necessary constant ventilation cannot be secured by the windows. Where there is a stove, the pure air shall be admitted directly from the outside through sufficient ducts running under the floor and opening below the stove. This pure air supply shall be under control by slides to open or close the ducts. Where steam heating or a hot air furnace is used, the pure air shall be admitted in the same way, to the base of the furnace. The outside air should be taken in, if at all practicable, about four feet above the ground, and the opening of the duct should be screened with fine wire gauze. In the air space of each furnace or within the jacket of each stove there shall be a pan filled daily with water, so as to furnish the warmed air with the necessary moisture. Air *shall not* be taken from the school-room or from the basement to supply the furnace. Sufficient moisture must be added to the air from evaporating pans or some other source to keep the relative humidity of the air at about 70 per cent. (The amount of moisture in the air when it is fully saturated is taken as 100 degrees, and any degree of dryness is expressed as a fraction of this.)

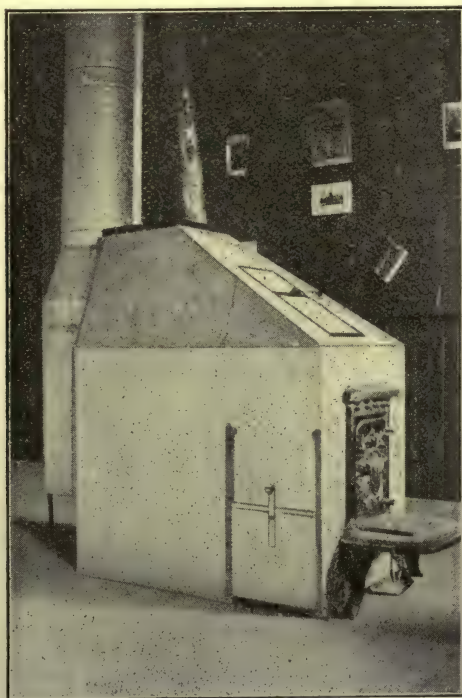
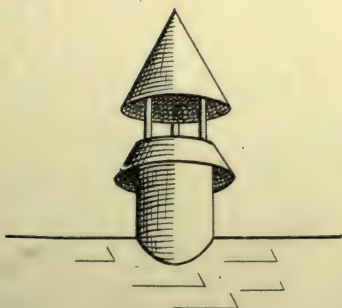
In cold weather, the foul air shall be taken away from near the floor and out through ventilating ducts in the chimney, which ducts should be somewhat larger in area than the incurrent pure air ducts. In buildings where ventilating ducts have not been provided in the chimneys, two tin, zinc, or galvanized iron pipes of sufficient size to allow air to be changed three times an hour (the ducts being about nine inches by twelve



inches) should extend on opposite sides from near the floor, connecting below with the classroom and running up through the ceiling beside the chimney, and so placed as to be well heated. When the pipe cannot be so placed, pipes of large diameter (a foot) with revolving cowls on the top of each will prove effective. Openings, with regulating slides, should also be provided in these ducts near the ceiling for use only in warm weather or when the room is overheated. When needed, a cowl should be placed so as to cover properly the chimney and the excurrent foul air ducts. *In new buildings a double flue chimney shall be built, the ventilating flue opening into the school-room.*

Where storm sashes are used on the outside, they shall contain sliding panels or shall be hinged at the top, to allow of the ingress of pure air; or they may be placed on the inside and also hinged at the top. It answers equally well to have double panes of glass about one-half inch apart in the same sash.

Below is an illustration of a device for heating and ventilating an old building where an ordinary box stove is used. It can be made and put in position by any good tinsmith for \$45 or \$50.



By this device it will be found that, at a very moderate cost, the temperature throughout the room will be kept uniform, and a constant supply of pure, warm air will take the place of the cool foul air, which will pass up in the large pipe. The liability to colds, headaches, and communicable diseases will also be very much reduced.

The following are the directions for constructing the device:

(1) Make an opening 10 in. by 14 in. through the outside walls, the full size of the space between the two joists passing under the front end of the stove.

(2) Enclose this space with building paper and sheet iron, and cut an opening in it for a register 14 in. by 18 in. directly beneath the front end of the stove.

(3) Enclose the stove, as shown in the illustration, with a jacket of galvanized iron, No. 24. Leave a space of about 8 inches between the jacket and the stove at the sides and back. The sides of the jacket should be about 6 inches higher than the stove where they are joined to the sloping top. The highest part of the jacket at the back is about five feet from the floor, but it will vary, of course, with the height of the stove. At this point there should be left an opening 14 inches square to admit the hot air into the room. This opening is covered with a heavy sand screen through which a circular opening is cut just large enough to allow the stove pipe to pass. The jacket is fitted to the front part of the stove by strips of galvanized iron which have one edge cut to fit closely to the sides of the stove, and the other fastened with screw rivets to the jacket. This is done to allow an old stove to be removed and another one placed within the same jacket with no more trouble than that of adjusting these strips to fit the new stove.

(4) Make three slides each about 10 in. by 10 in. to close openings in the jacket, one on each side of the floor directly opposite the register, and the third over the top of the stove as shown in the illustration. Make all the slides move freely, but stay in position when opened.

(5) The foul air pipe should be 14 in. in diameter and placed directly at the back of the stove as shown in the cut. It is supported on three or four iron legs about 12 in. long, leaving an opening through which the foul and cold air is drawn from the floor. The pipe passes directly upward through the ceiling and out through the peak of the roof, where it is covered with an Emerson hood as shown in the smaller figure above. The clear height of the open space between the lip and cover of the hood should be just half of the diameter of the pipe. Put a pad of asbestos between the pipe links at the peak of the roof to check noisy vibrations of the pipe, which may be caused by the wind, and fasten outside link securely to the roof. Do not put a damper in the foul air pipe; it could do no good and it might often do much harm.

(6) Make an opening 10 in. by 10 in. in the foul air pipe just below the ceiling and cover it with a sliding lid which can be moved by means of a small rod fastened to it.

The following are directions for the use of this device:

To prevent the air being heated over again while the school is in session, keep the register open and close the slides. After and before school hours, an inside circulation—all that is then necessary—may be maintained by closing the register and opening the slides.



### Colour Schemes for Interiors.

The walls and ceiling should have a hard, smooth, white finish. On account of the dust that gathers on it, the rough plaster finish is objectionable. A suitable base having thus been provided, the selection of the colours is the next important step. Colours should be chosen not only on account of their beauty, but also for their effect upon the mental and physical condition of the children, and the patience and energy of the teacher. Neurologists maintain that many cases of headache and other forms of nervous irritation are due to the glare of bare white walls or to the effects of unsuitable colours.

In the treatment of colour, the amount of light that enters the room during school hours is an important factor. With a southern exposure the sunlight will be strong; with a northern exposure there would be little or no sunlight, and, with an eastern or western exposure, the sunlight will be strong only in the morning or afternoon. If the room is poorly lighted, the colour scheme should be in light tones; and, if it is well lighted, the colour scheme may be darker. Dark tones must, however, be used with discretion, because they diminish the apparent size of the room, and, more particularly, because a wall should be a background, not a prominent feature. Accordingly, a room with a northern exposure should be treated with warm, light colours; that is, colours into the composition of which enter the orange or orange-yellow rays; while a room with direct sunlight should be treated with soft, cool, deep tints; that is, those into the composition of which enter green or blue-gray or blue-green. The brighter tones of red are trying to the eye, while blue and its tones shading to violet are depressing. What is wanted especially in a colour scheme is restfulness to the eye.

Moreover, the colour of the walls should harmonize either by analogy or by contrast with that of the woodwork, whether painted or of the natural colour. With oak, analogy requires tints of yellow and orange, such as cream, buff, and light tan or brown; whereas contrast requires tints between blue and green, such as green-grays, light olive, and light Dutch blue. If the room has a southern exposure, the contrasting colours will be used; otherwise, the analogous ones.

Very bright colours may be used in lines along the edge of the ceiling or near the book-case. In moderation, they tone up the general effect.

The colours of the hallways may be darker in tone; but, if pictures are hung on the walls, the colours must be selected so as to form a proper background. The lighting of the hall must also be taken into account. Green and terra-cotta will often be found very suitable.

The colour of the ceiling should be a *very* light tint of some colour found in the finish of the room, or of a contrasting colour.

The following pages contain illustrations of colour schemes for Interiors. The colours used in the sketches can be produced with the following pigments: Yellow Ochre, Burnt Sienna, Burnt Umber, and Cobalt Blue. On page 14 will also be found colour schemes for Exteriors.

## Colour Schemes for Exteriors.

### *Frame Buildings.*

#### No. 1.

*Walls.*—Cream Colour.  
*Frames.*—Dark Green.  
*Doors.*—Dark Green.  
*Sashes.*—White.  
*Roof.*—Terra-cotta Stained  
 Shingles.  
*Cornices.*—Dark Green.

#### No. 2.

*Walls.*—White.  
*Frames.*—Terra-cotta.  
*Doors.*—Terra-cotta.  
*Sashes.*—Leather Colour.  
*Roof.*—Moss Green.  
*Cornices.*—Terra-cotta.

#### No. 3.

*Walls.*—Dark Green.  
*Frames.*—White.  
*Sash.*—White.  
*Doors.*—Grained Oak.  
*Roof.*—Terra-cotta Stained  
 Shingles.  
*Cornices.*—White.

#### No. 4.

*Walls.*—Cream Colour.  
*Frames.*—Indian Red.  
*Doors.*—Indian Red.  
*Sashes.*—White.  
*Roof.*—Dark Green Stained  
 Shingles.  
*Cornices.*—White.

### *Brick Buildings.*

#### No. 1.

*Walls.*—Cherry Red Stock Brick.  
*Sills.*—Gray Stone.  
*Sash and Doors.*—Dark Green.  
*Frames.*—White.  
*Cornices.*—White.  
*Roof.*—Black Slate or Moss Green  
 Stained Shingles.

#### No. 2.

*Walls.*—Buff Brick.  
*Sills.*—Brown Stone.  
*Frames.*—Terra-cotta.  
*Sash.*—White.  
*Doors.*—Oak Grained.  
*Cornices.*—Terra-cotta.  
*Roof.*—Black Slate or Dark Green  
 Stained Shingles.

#### No. 3.

*Walls.*—Light Red Brick.  
*Sills.*—Gray Stone.  
*Frames.*—Cream Coloured.  
*Sash and Doors.*—Terra-cotta.  
*Cornices.*—Cream.  
*Roof.*—Sage Green Stained  
 Shingles.

#### No. 4.

*Walls.*—White Brick.  
*Sills.*—Brown Stone.  
*Frames.*—Light Green.  
*Sash and Doors.*—Dark Green.  
*Cornices.*—Dark Green.  
*Roof.*—Terra-cotta Stained  
 Shingles.





NORTHERN EXPOSURE







EAST AND WEST EXPOSURE



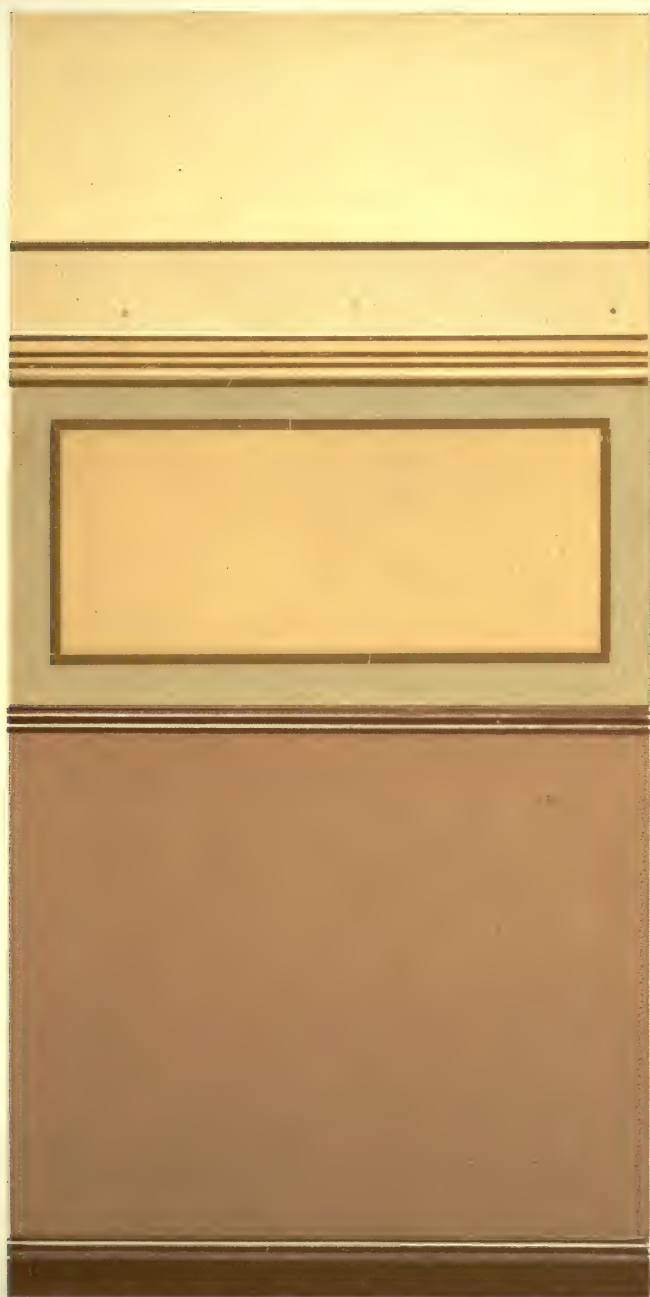




SOUTHERN EXPOSURE







HALL





### *Paints.*

As pointed out on p. 7, the walls and ceilings may be calcimined or painted. For sanitary reasons, painting is greatly to be preferred. Washable water paint (flat) should be used. For the floors, oil stain and oil finish should be used, and for the woodwork, oil paints.

For exterior surfaces all mixtures should contain only raw linseed oil, pure turpentine, white lead, and the colouring matter necessary to produce desired tints. Under no condition should there be less than three coats. The ingredients should be well mixed and kept stirred up during application. Good hair brushes should be used, and skilled mechanics employed. In changing from one colour to another the brushes should be thoroughly cleaned.

For interior woodwork such as architraves, wainscotting, bases, etc., the contents should be the same as for exterior work except in the matter of the oil, which should be boiled, and not raw.

In all cases the work should be rubbed down and sandpapered when necessary between coats.

For walls and ceilings, the surface should be well covered and finished flat with no shiny surfaces. Maple floors should be twice oiled with raw linseed oil laid on hot; the first coat should have a colouring of cherry stain. Oak floors should be filled, oiled, and waxed.

### School Plans.

While the Department of Education supplies plans, it must be understood that it is safer to place in charge of a competent architect the construction of the school building, whether as planned herein or as modified to suit special conditions. By this provision, the expense will not be materially increased, and expensive mistakes may be avoided. It is also proper to point out here that, as provided by the Regulations, all new school sites and additions to old ones, and all plans of new schools or of additions to old ones, and all other proposed school accommodations, shall first be approved by the Inspector of Public Schools. In dealing with these matters, the Inspector shall be guided by the Departmental instructions. On p. 93 will be found notes suggesting modifications of the plans.

**In the following diagrams all elevations and plans are on a scale of 22 feet to the inch.**

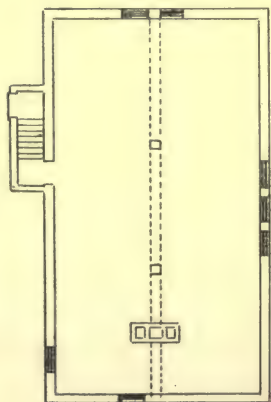
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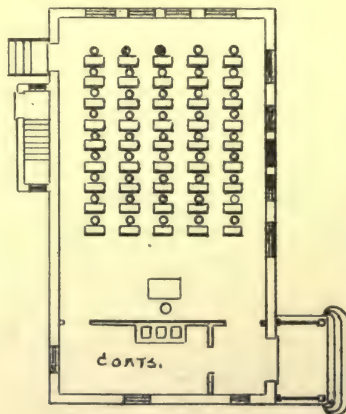
SIDE ELEVATION.



FRONT ELEVATION.



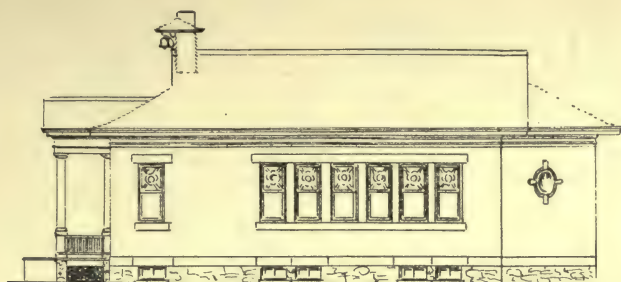
BASEMENT.



GROUND FLOOR.



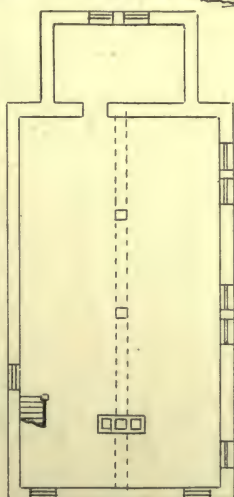
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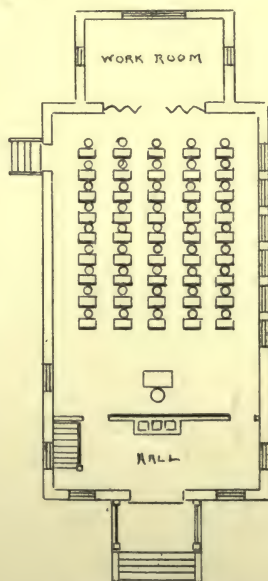
SIDE ELEVATION.



FRONT ELEVATION.



BASEMENT.



GROUND FLOOR.

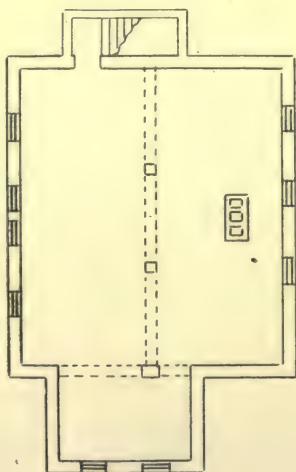
3



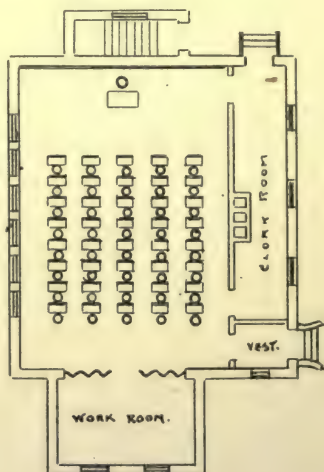
SIDE ELEVATION.



FRONT ELEVATION.



BASEMENT.



GROUND FLOOR.

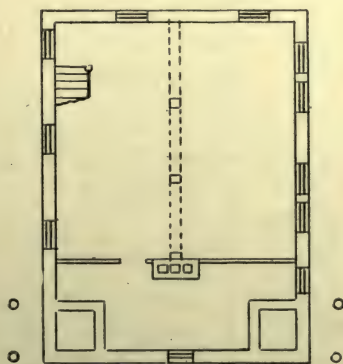




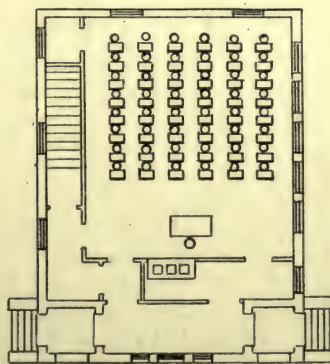
FRONT ELEVATION.



SIDE ELEVATION.



BASMENT.

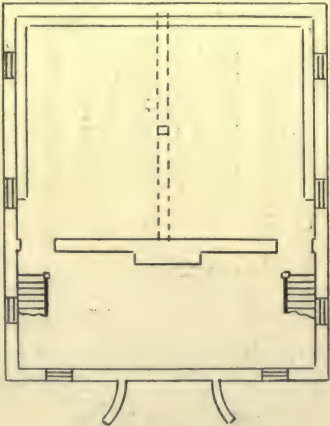


GROUND FLOOR.

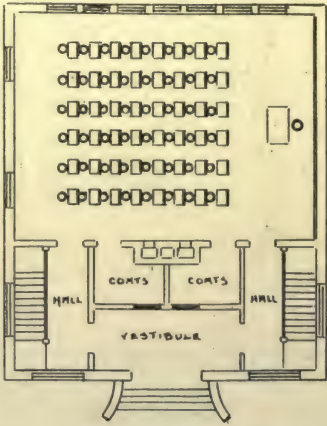
5



FRONT ELEVATION.

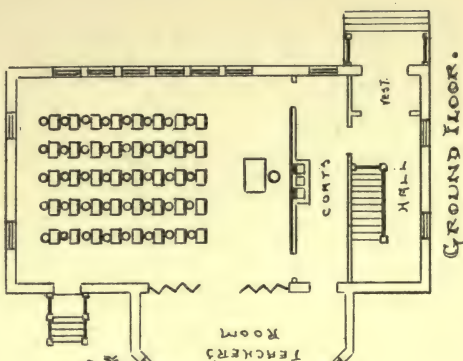
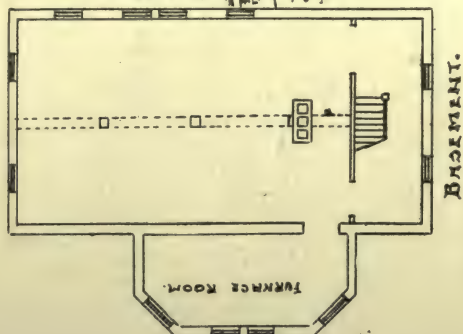
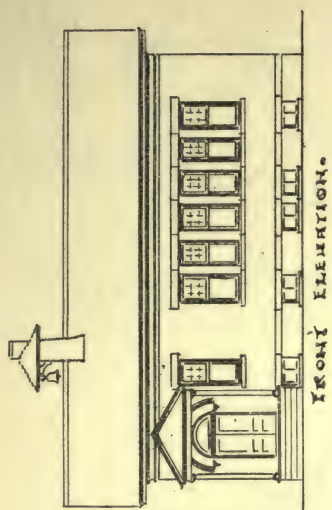
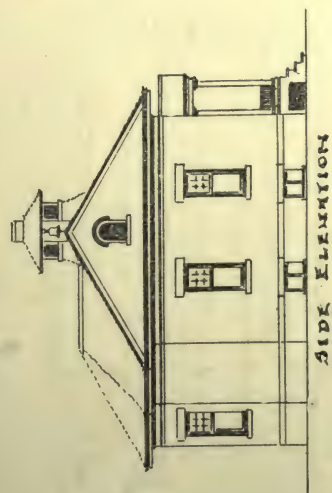


BASEMENT.



GROUND FLOOR.

6





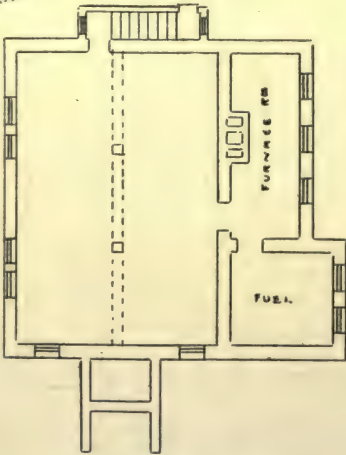


SIDE ELEVATION.

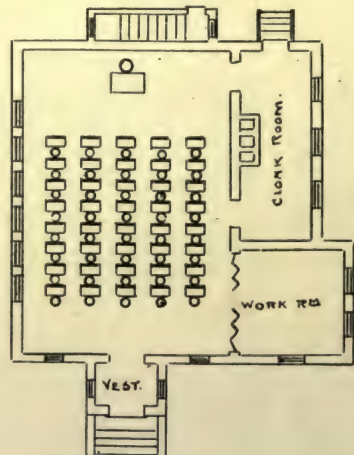


FRONT ELEVATION.

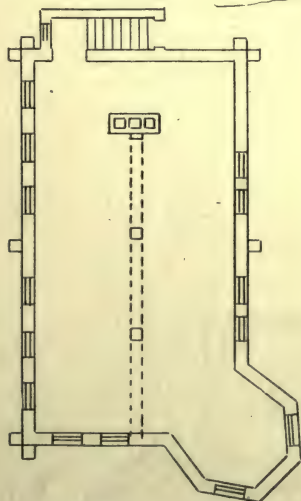
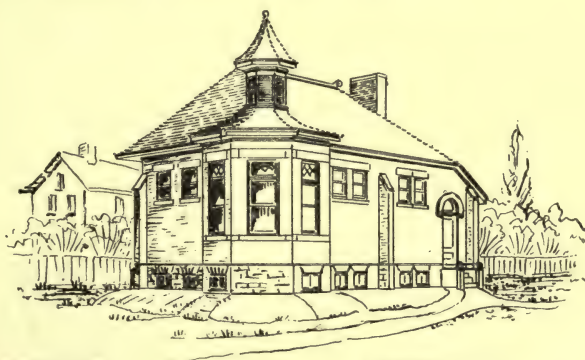
7



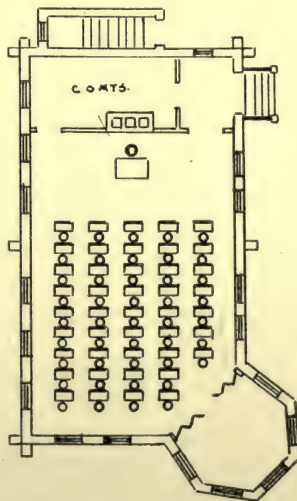
BASEMENT.



GROUND FLOOR.



BASEMENT.



GROUND FLOOR.

9



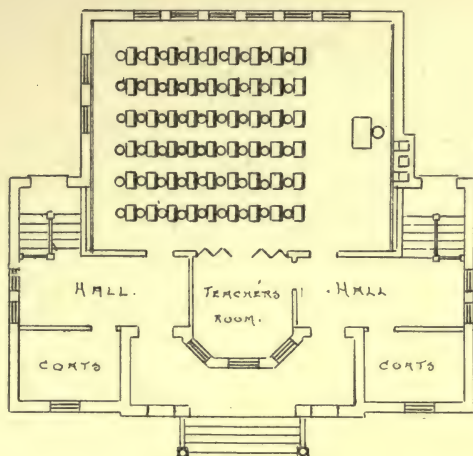
FRONT ELEVATION.



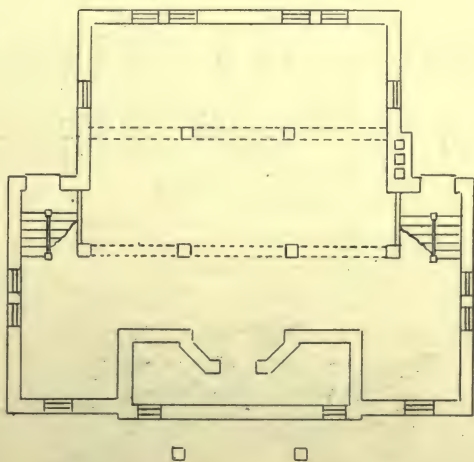
SIDE ELEVATION.



9



GROUND FLOOR.

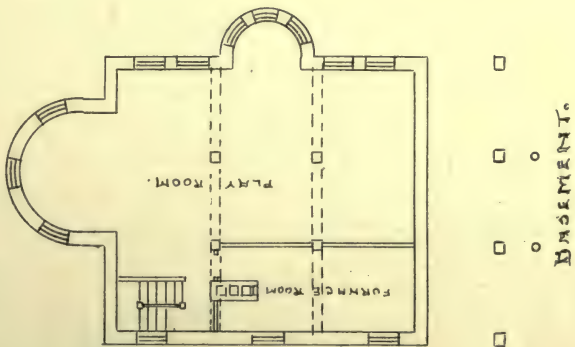
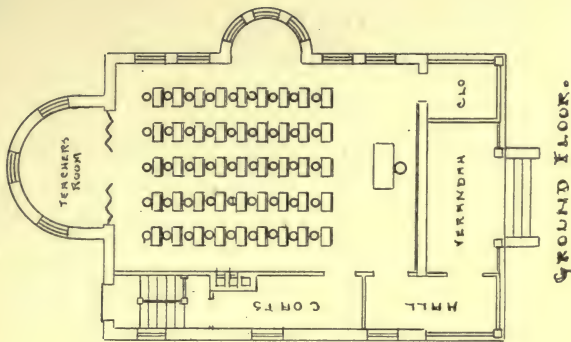


BASEMENT.

10



10





11

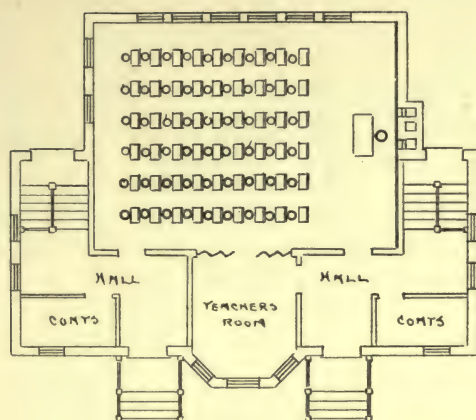


FRONT ELEVATION.

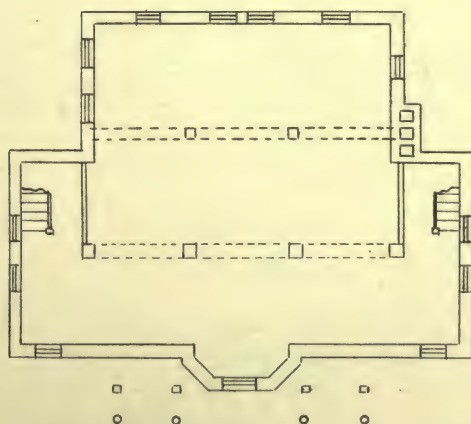


SIDE ELEVATION.

11



GROUND FLOOR.



BASEMENT.

12



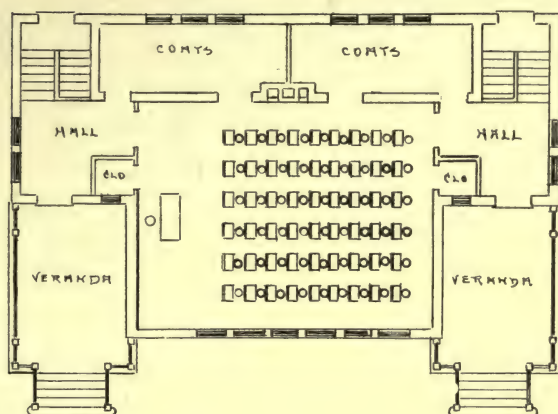
FRONT ELEVATION.



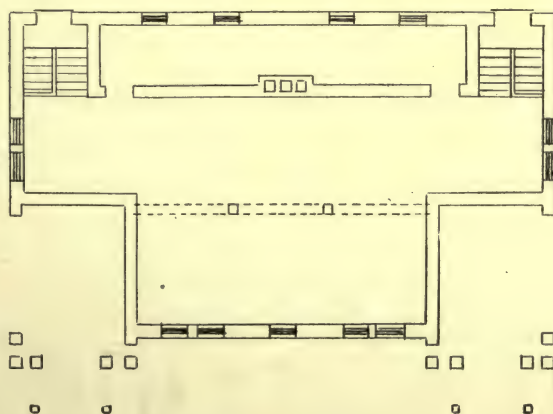
SIDE ELEVATION.



12



GROUND FLOOR.



BASEMENT.

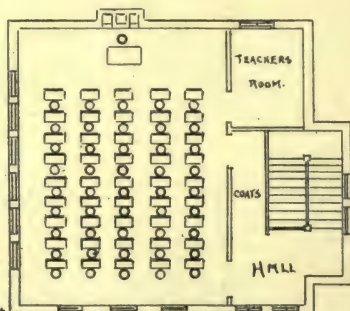
13



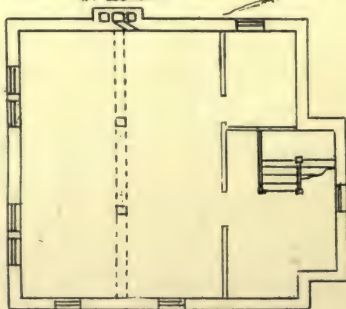
SIDE ELEVATION.



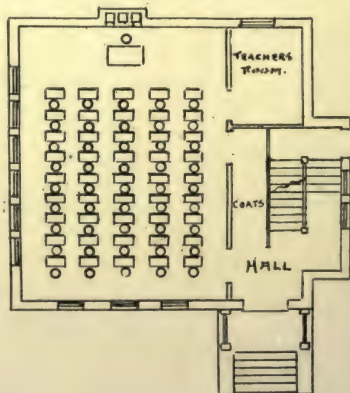
FRONT ELEVATION.



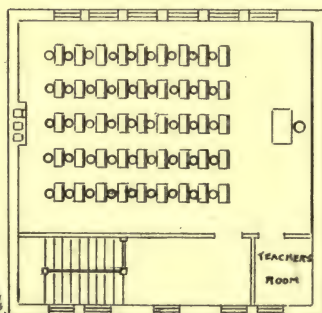
FIRST FLOOR.



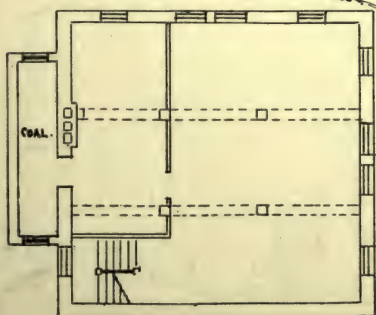
BASEMENT.



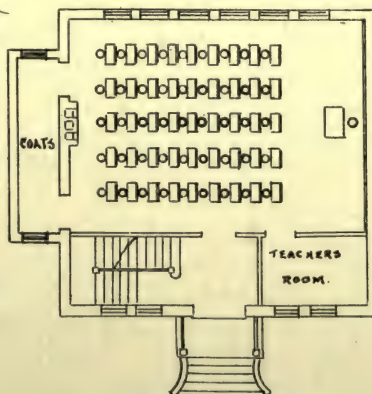
GROUND FLOOR.



FIRST FLOOR.

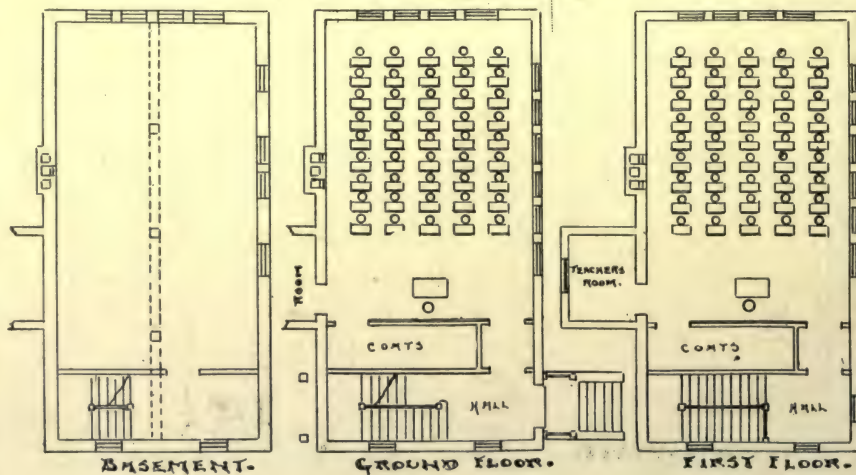
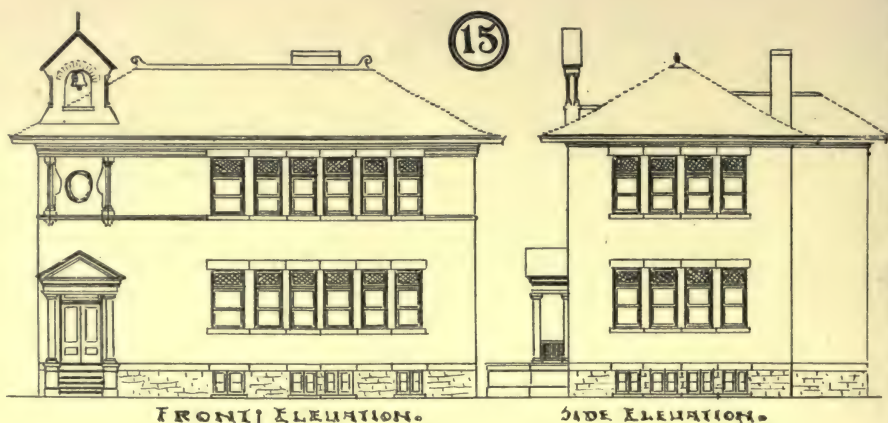


BASEMENT.



GROUND FLOOR.







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SIDE ELEVATION.

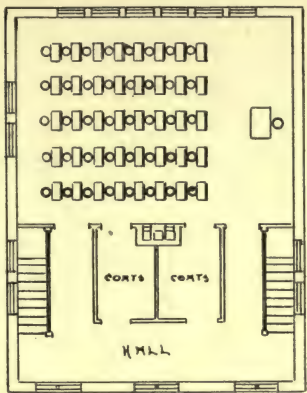




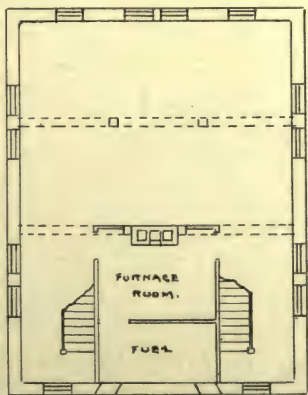
16



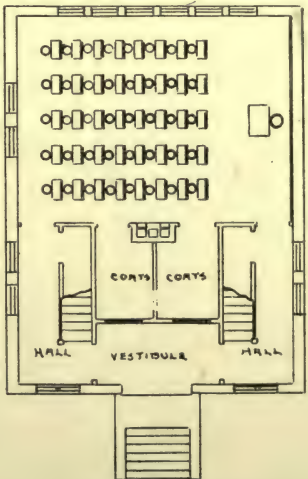
FRONT ELEVATION.



FIRST FLOOR.



BASEMENT.



GROUND FLOOR.

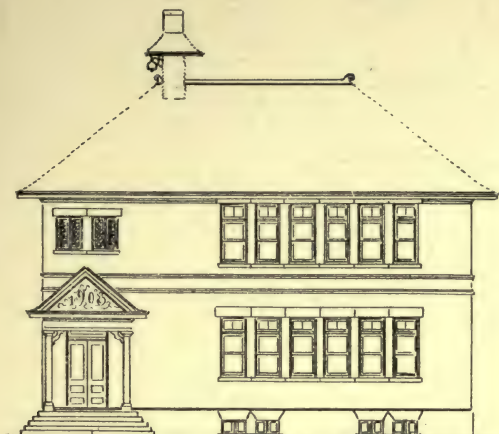
17



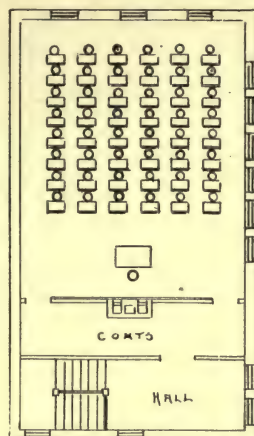
SIDE ELEVATION.



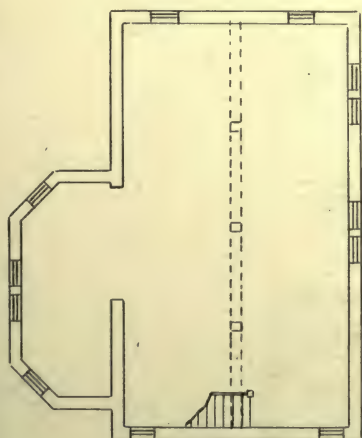
17



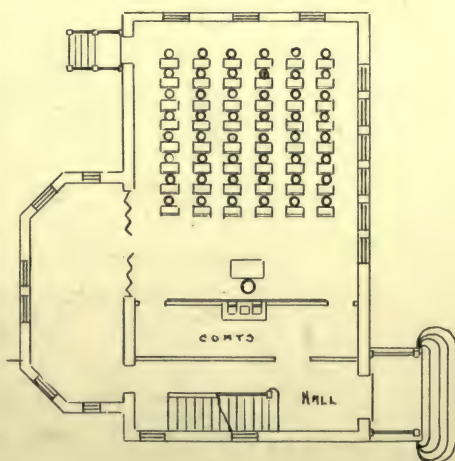
FRONT ELEVATION.



FIRST FLOOR.



BASEMENT.



GROUND FLOOR.



18

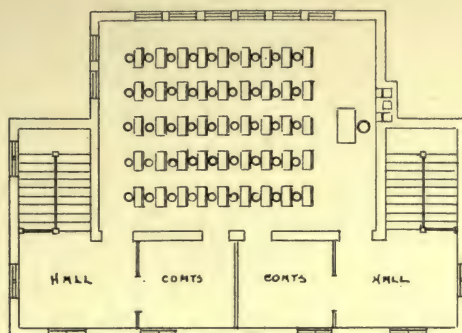


FRONT ELEVATION.

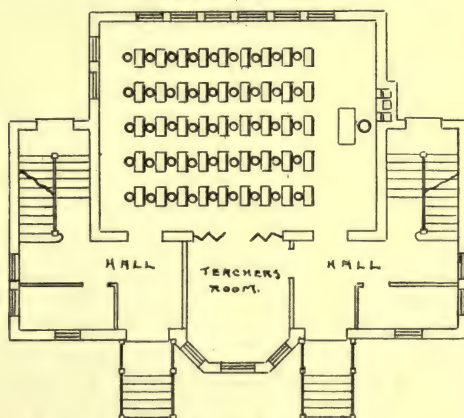


SIDE ELEVATION.

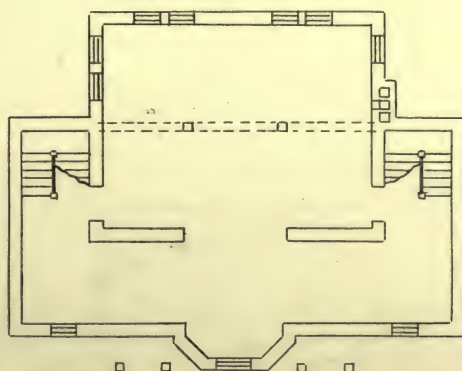
18



FIRST FLOOR.



GROUND FLOOR.

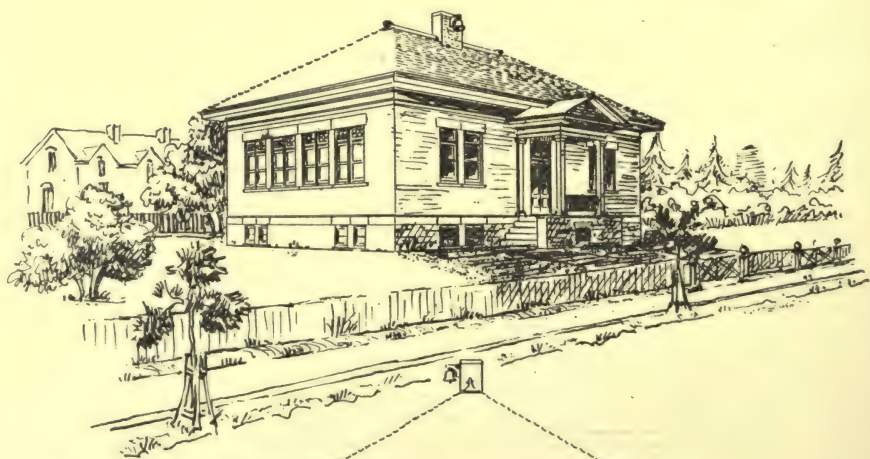


BASMENT.



FRONT ELEVATION.

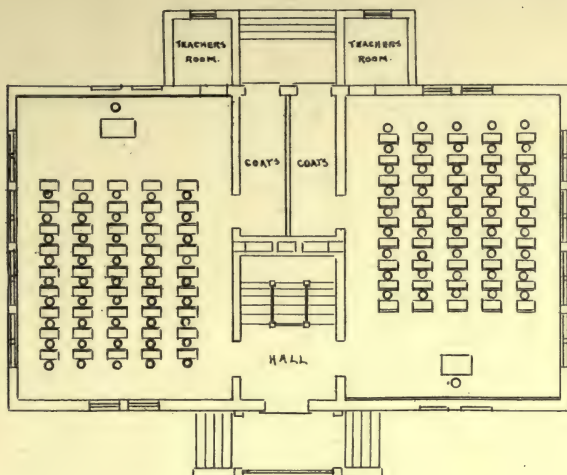
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ARCHITECTS TORONTO



SIDE ELEVATION.

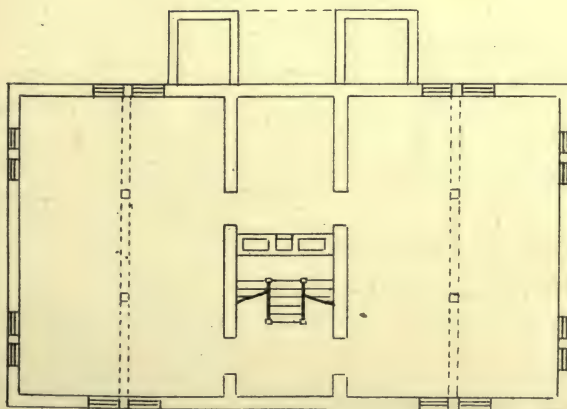


19.



GROUND FLOOR.

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BASEMENT.

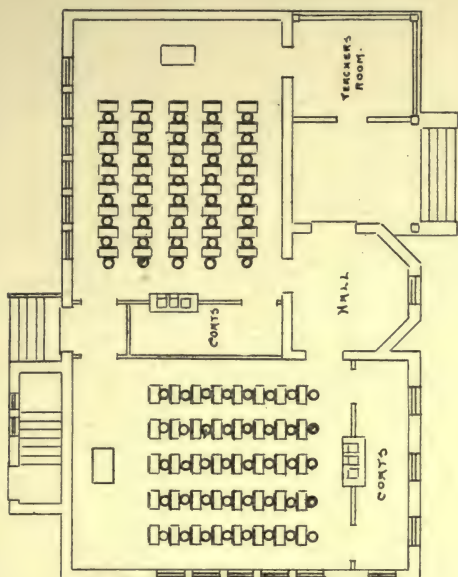


FRONT ELEVATION.

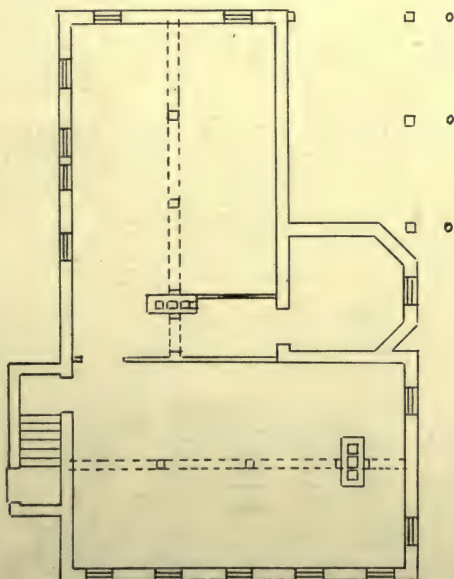


SIDE ELEVATION.

20



GROUND FLOOR.



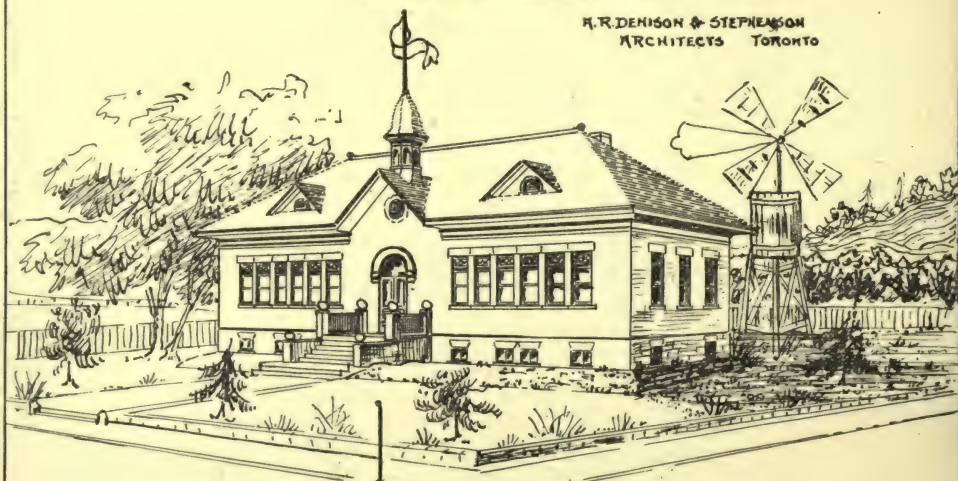
BASEMENT.



21.

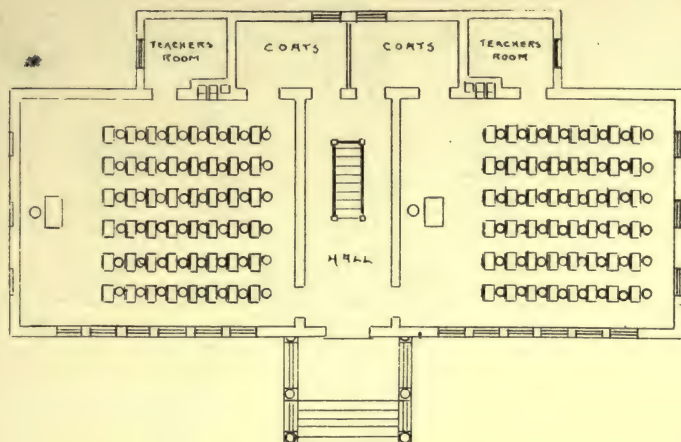


FRONT ELEVATION.

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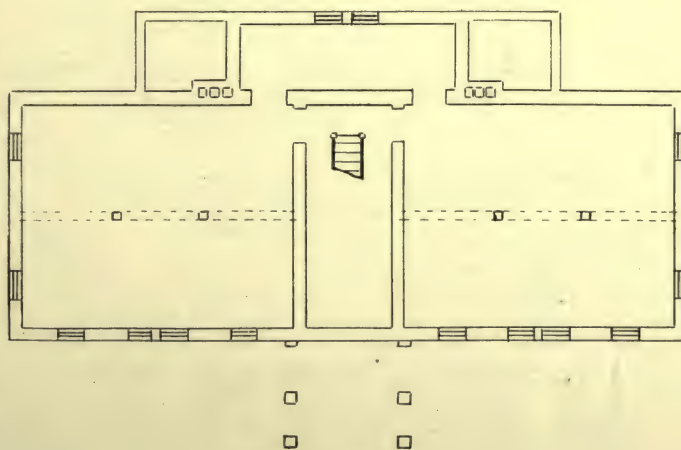
SIDE ELEVATION.

21



GROUND FLOOR.

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BASEMENT.

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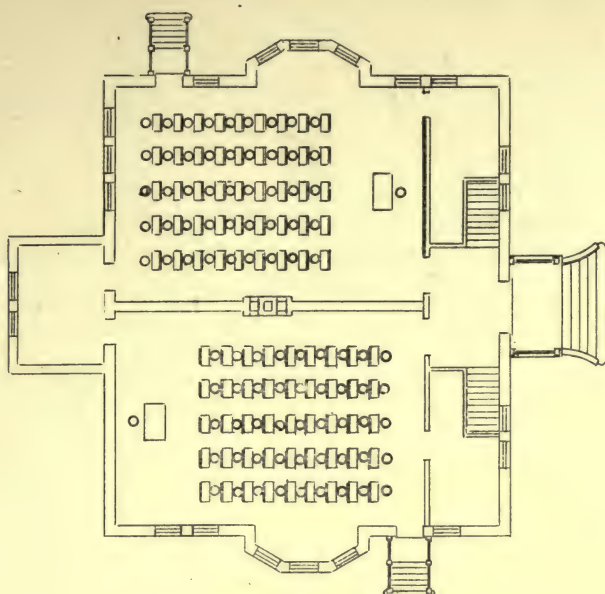
FRONT ELEVATION.



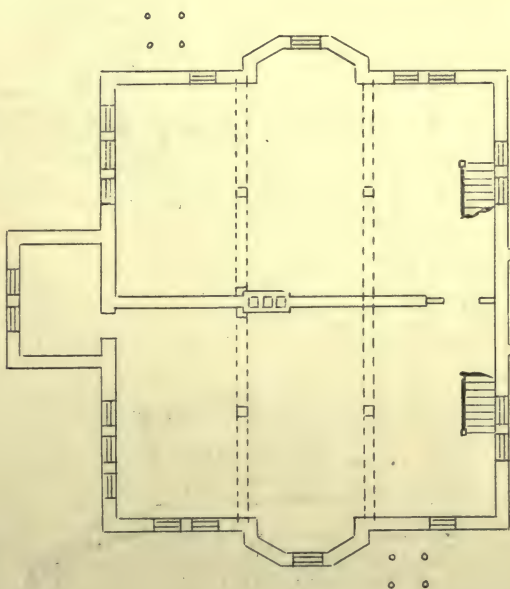
SIDE ELEVATION.



22



GROUND FLOOR.

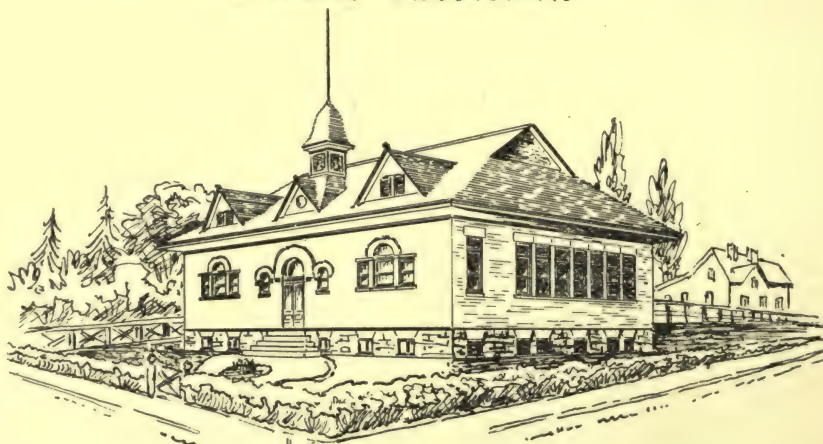


BASEMENT.

23.

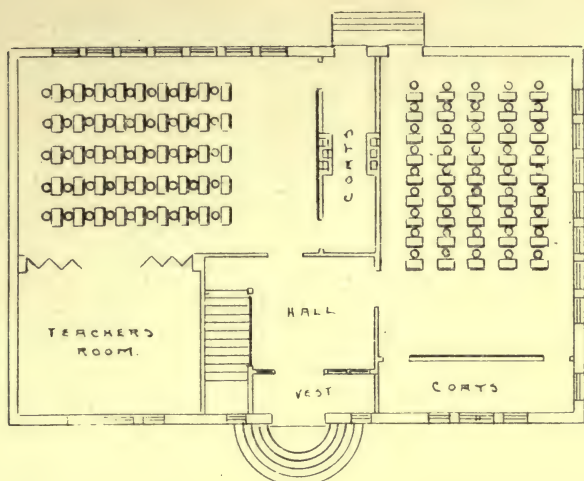


FRONT ELEVATION.

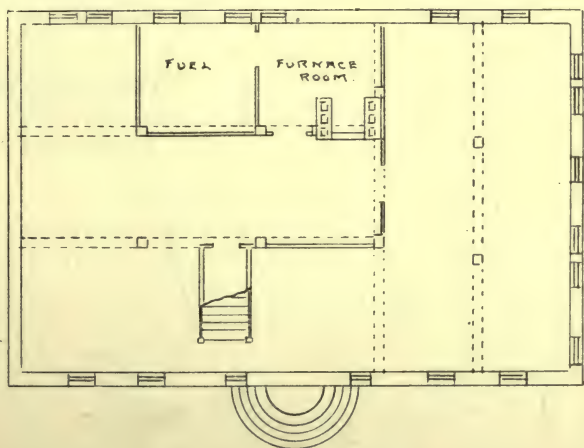


SIDE ELEVATION.

23



GROUND FLOOR.



BASEMENT.



24

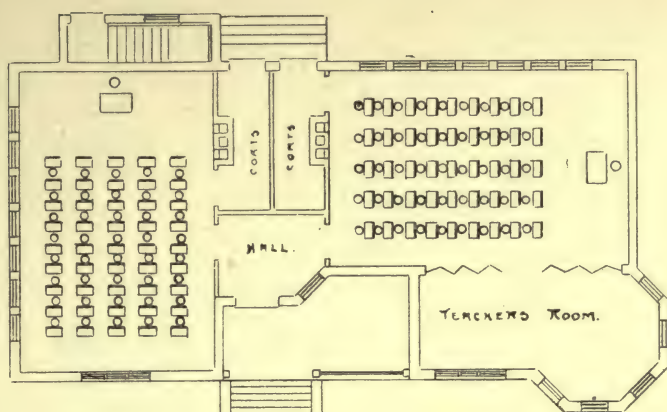


FRONT ELEVATION.

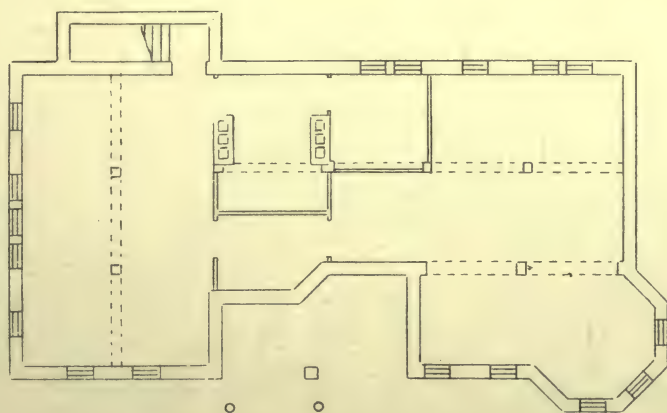


SIDE ELEVATION.

24



GROUND FLOOR.



BASEMENT.



FRONT ELEVATION.

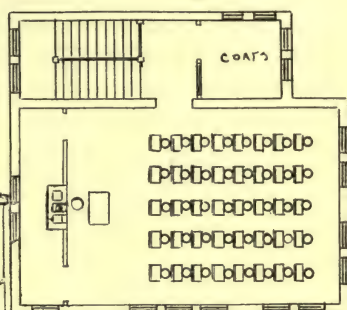




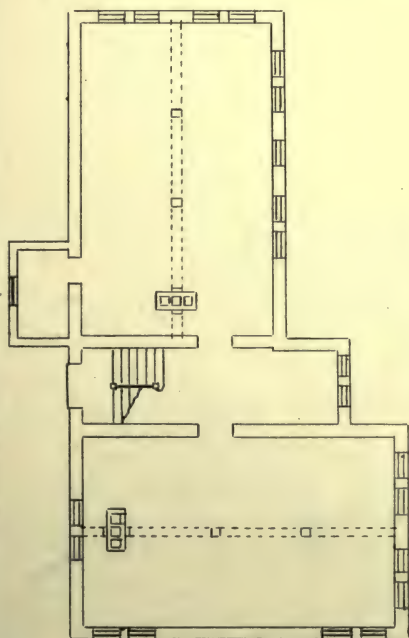
25



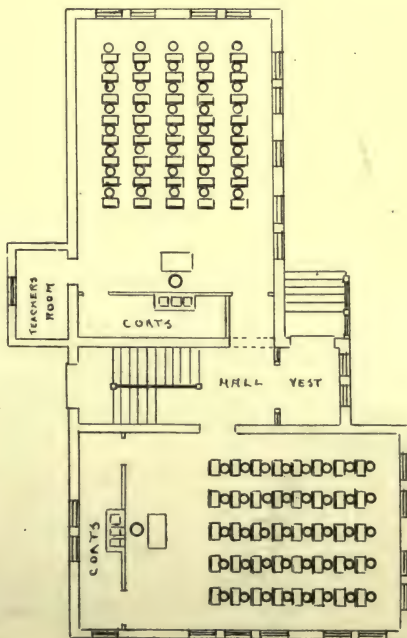
SIDE ELEVATION



FIRST FLOOR.



BASMENT.



GROUND FLOOR.

R6



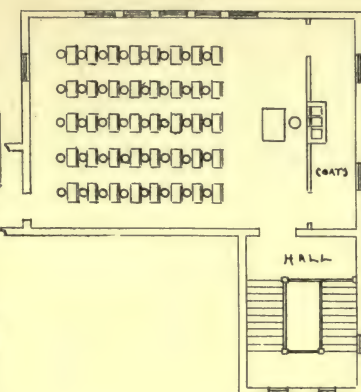
SIDE ELEVATION.



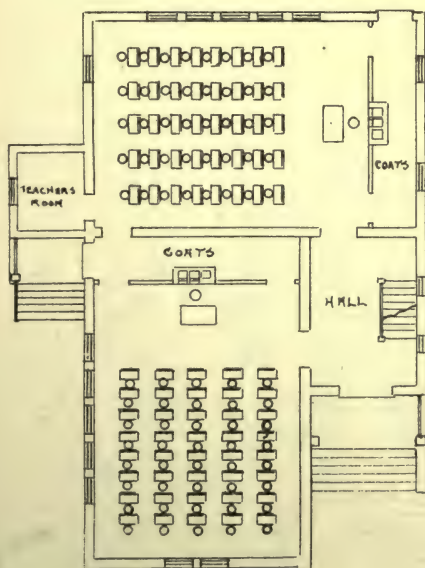
26



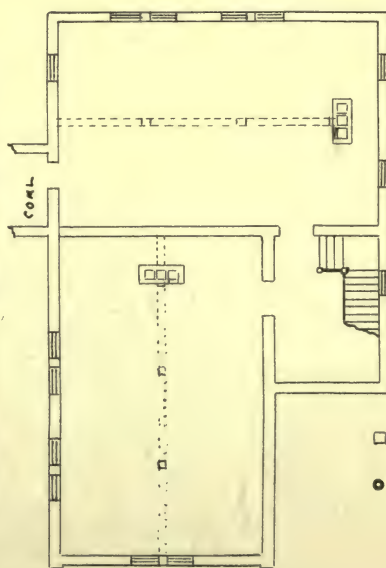
FRONT ELEVATION.



FIRST FLOOR.



GROUND FLOOR.

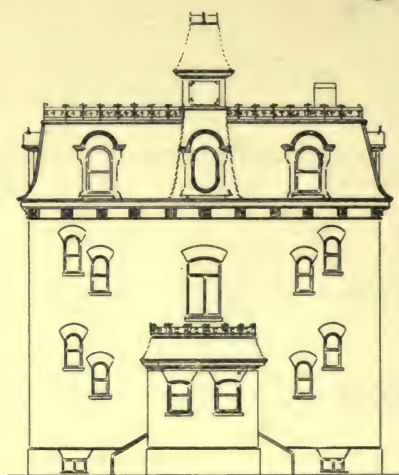


BASEMENT.

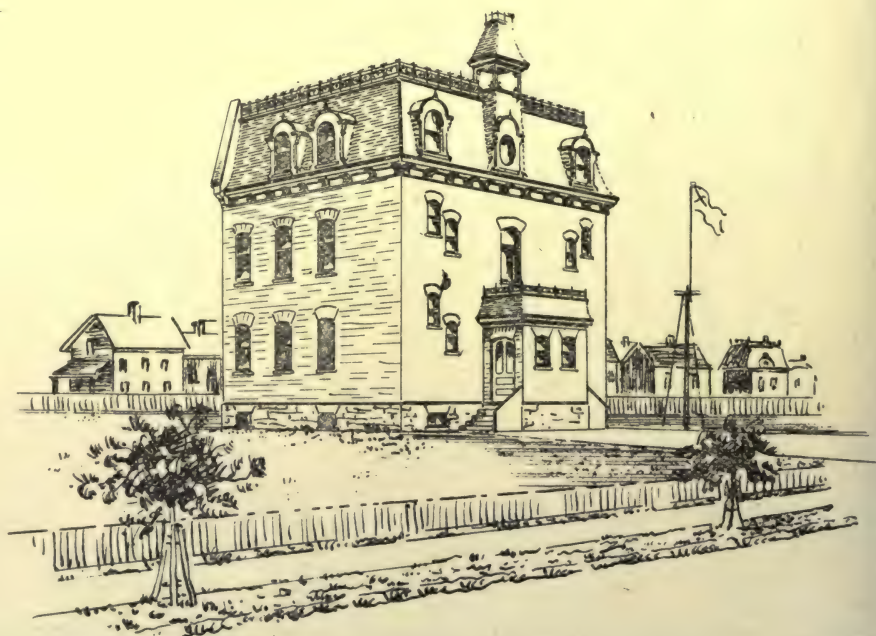




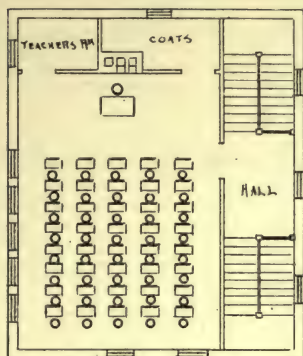
SIDE ELEVATION.



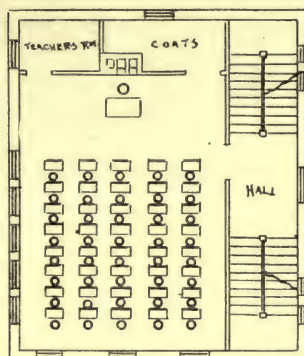
FRONT ELEVATION.



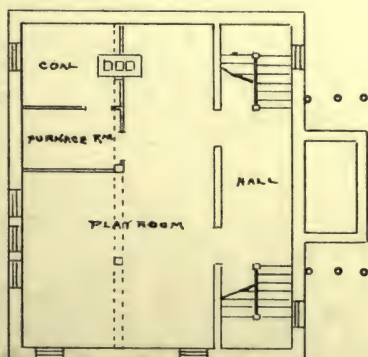
27



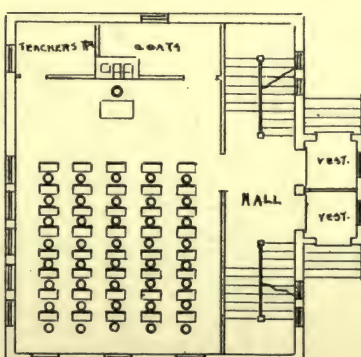
SECOND FLOOR.



FIRST FLOOR.



BASEMENT.



GROUND FLOOR.

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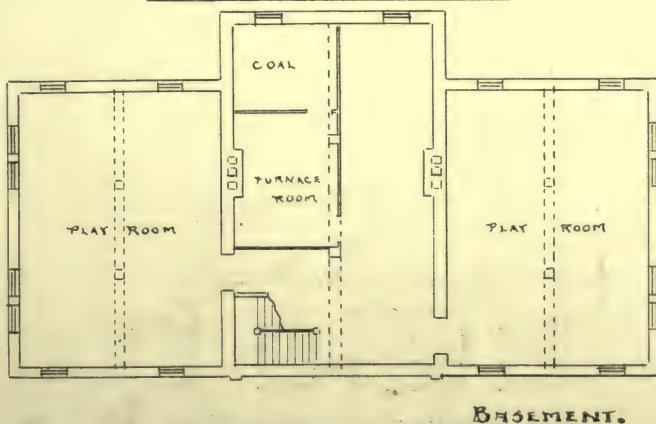
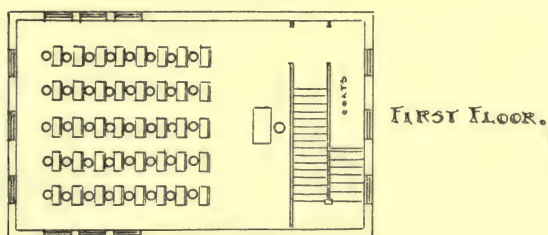
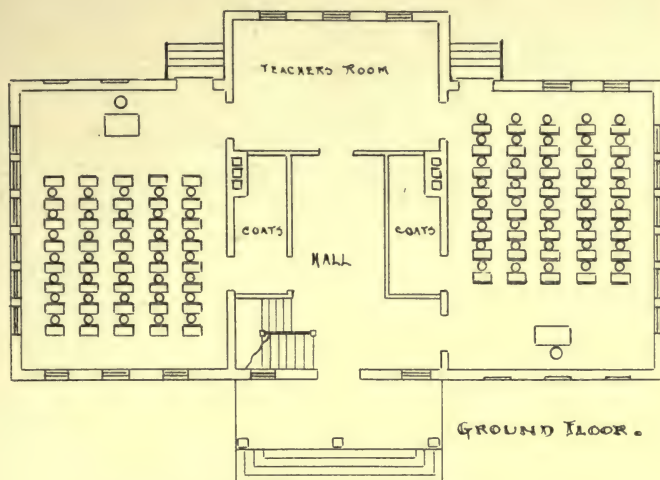
FRONT ELEVATION.



SIDE ELEVATION.



28



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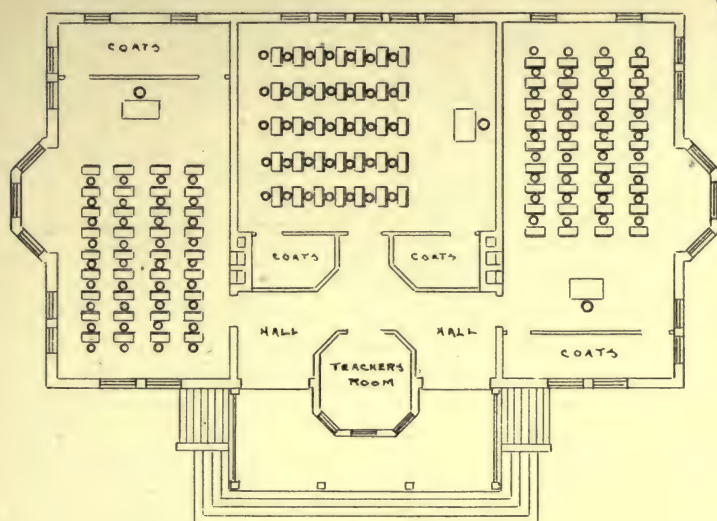


FRONT ELEVATION.

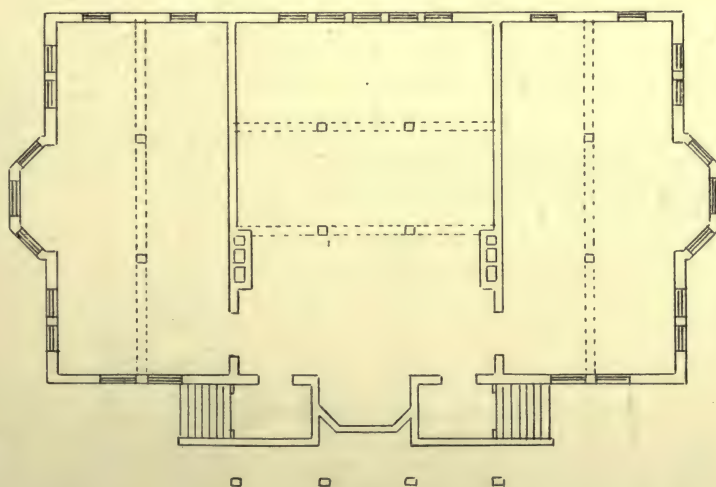


SIDE ELEVATION.

29



GROUND FLOOR.



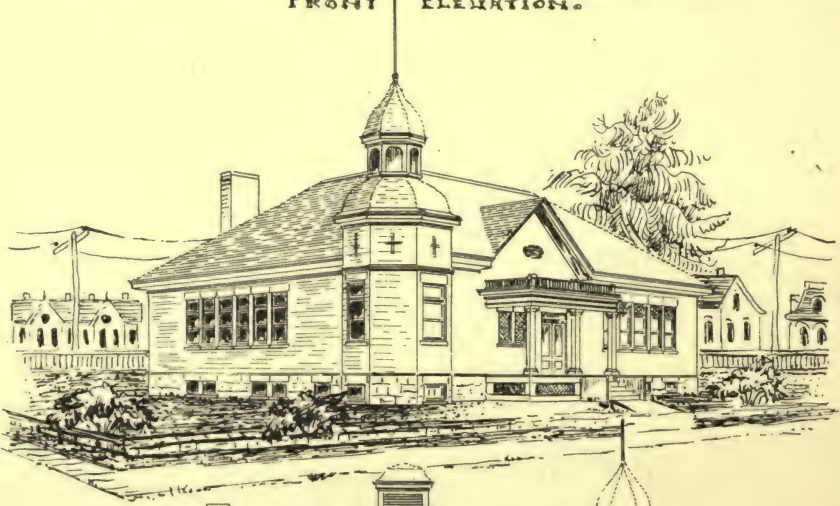
BASEMENT.



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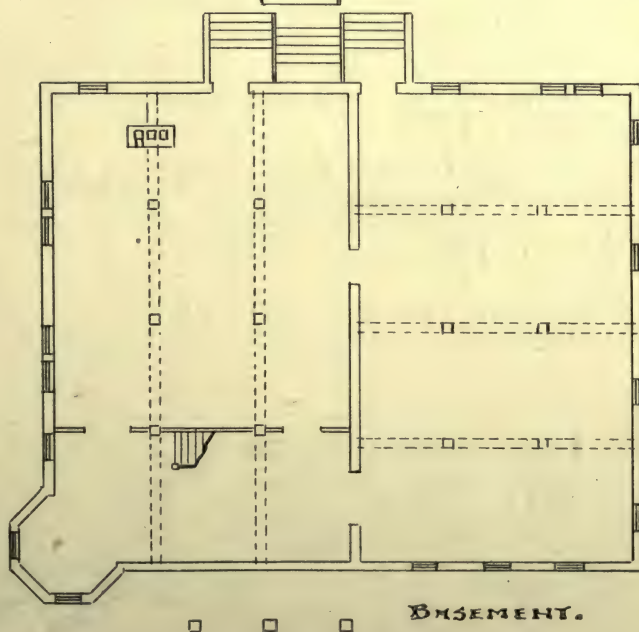
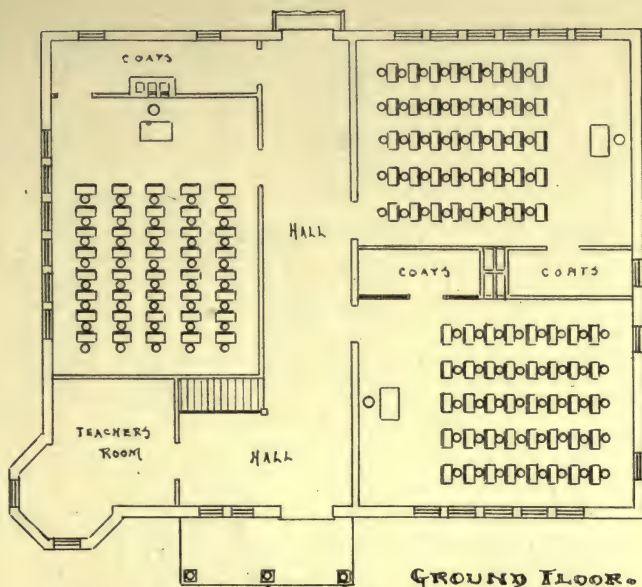


FRONT ELEVATION.



SIDE ELEVATION.

30



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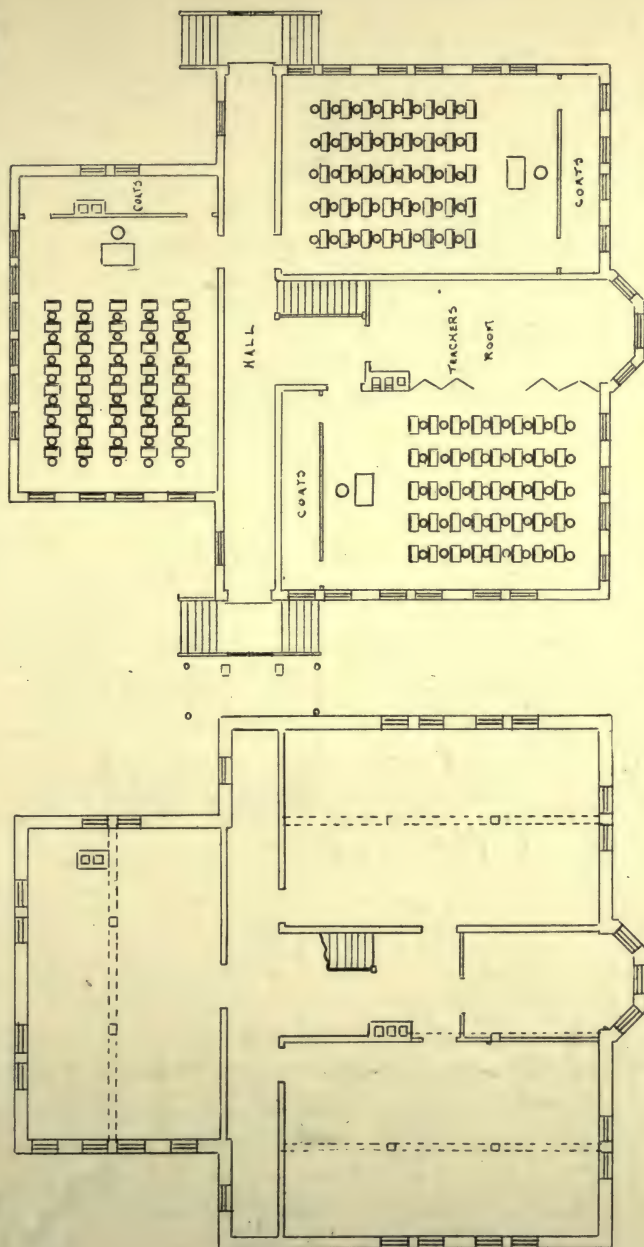
FRONT ELEVATION.



SIDE ELEVATION.



31



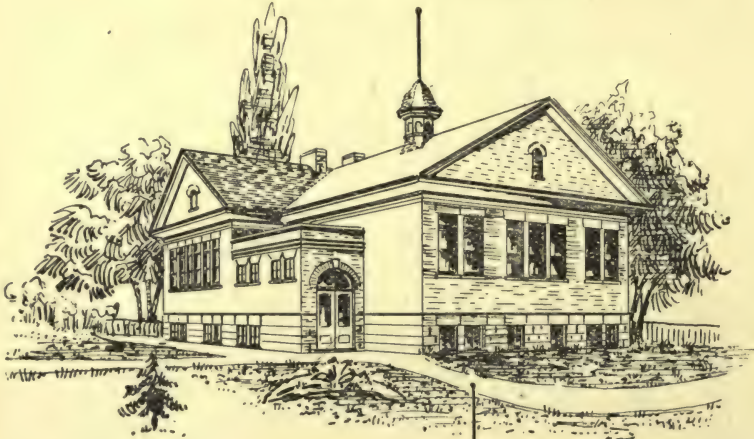
GROUND FLOOR.

BASEMENT

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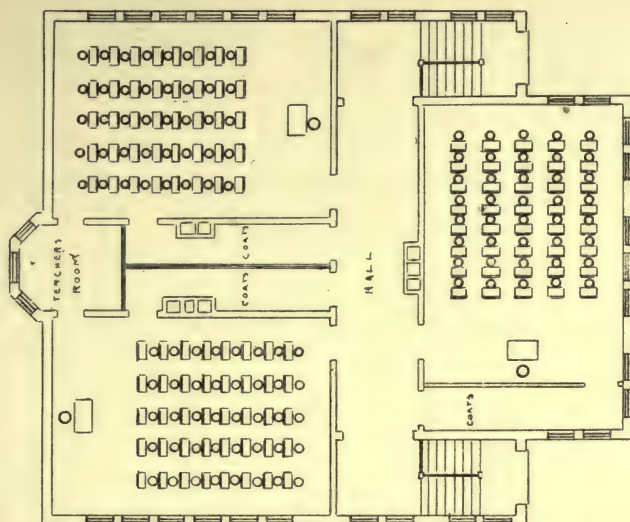


FRONT ELEVATION.

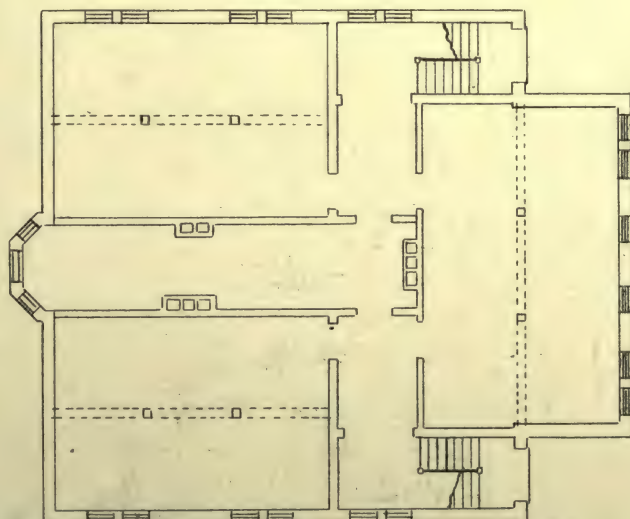


SIDE ELEVATION.

32



GROUND FLOOR.



BASMENT.



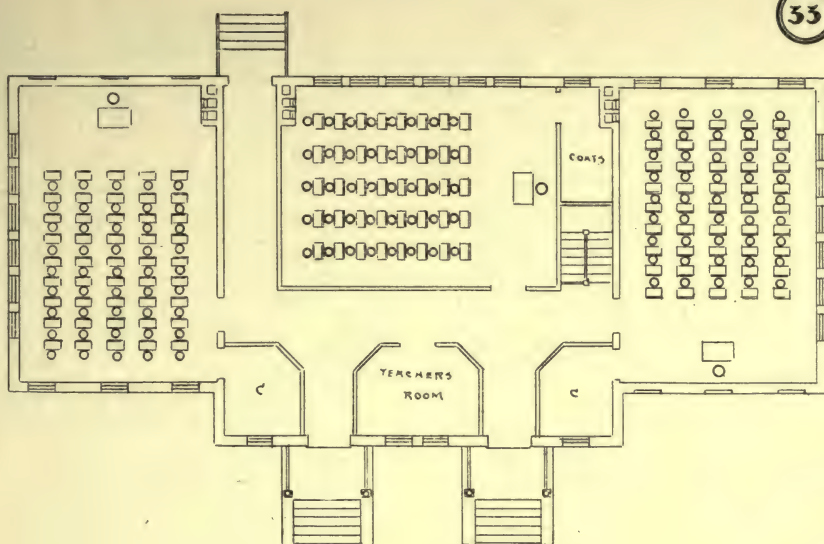


FRONT ELEVATION.

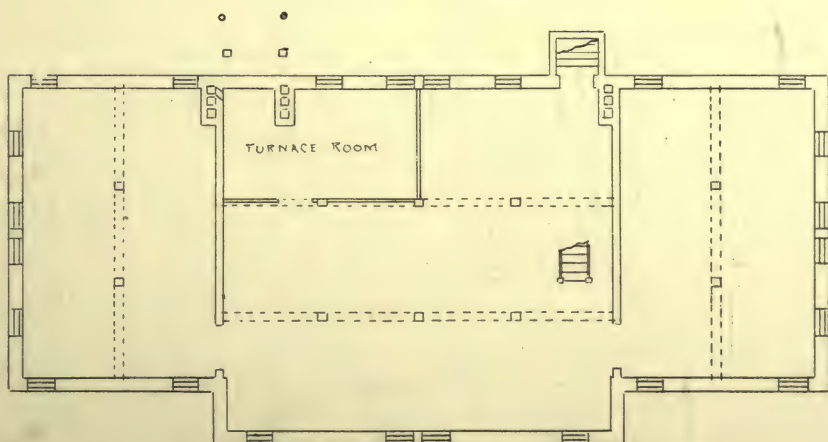


SIDE ELEVATION.

33

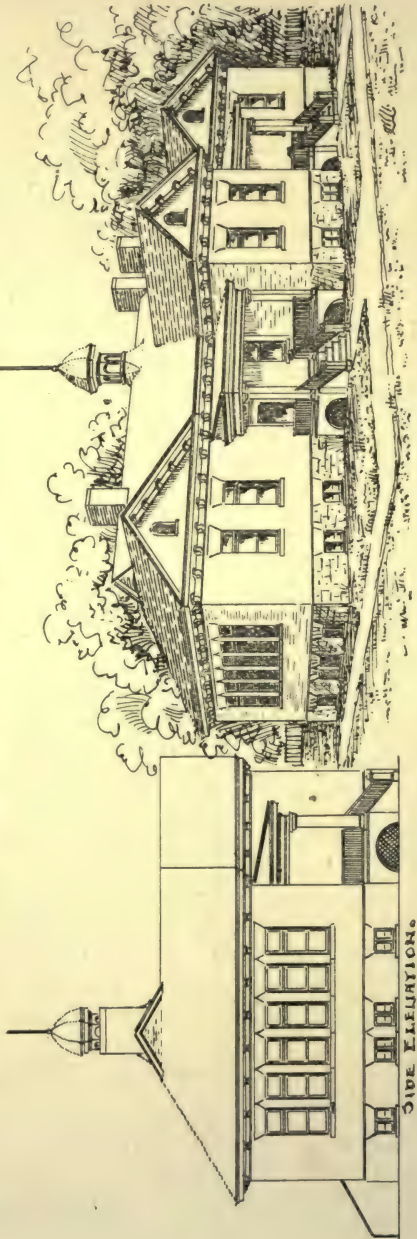
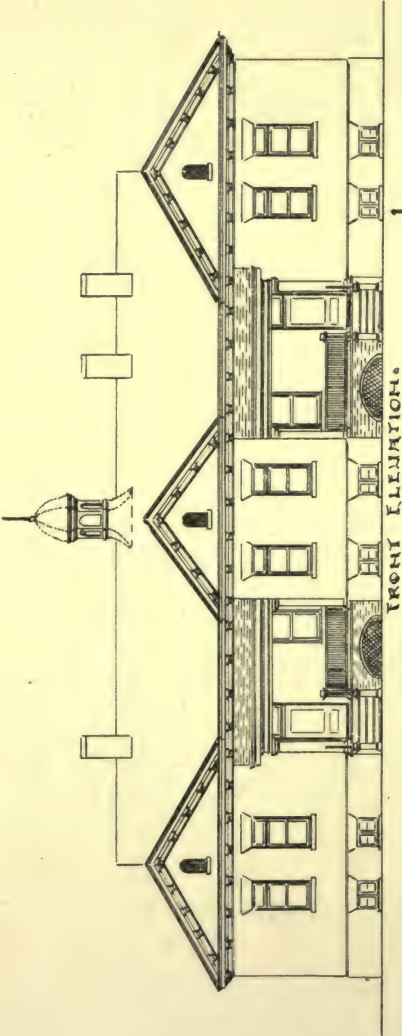


GROUND FLOOR.



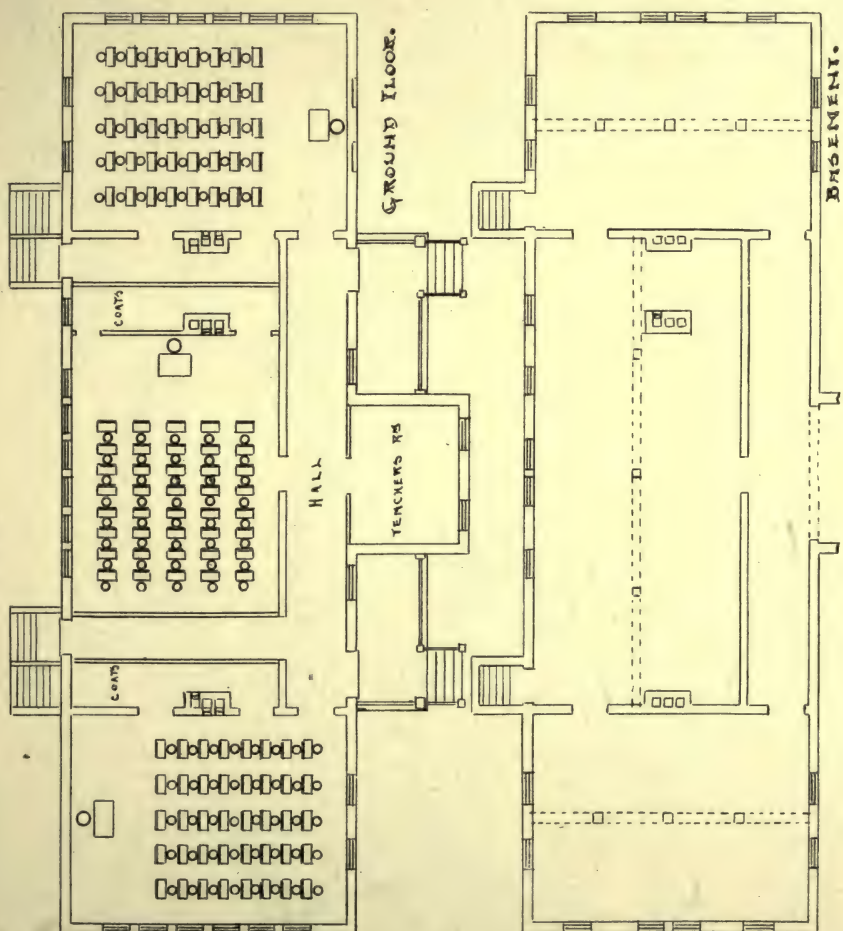
BASEMENT.

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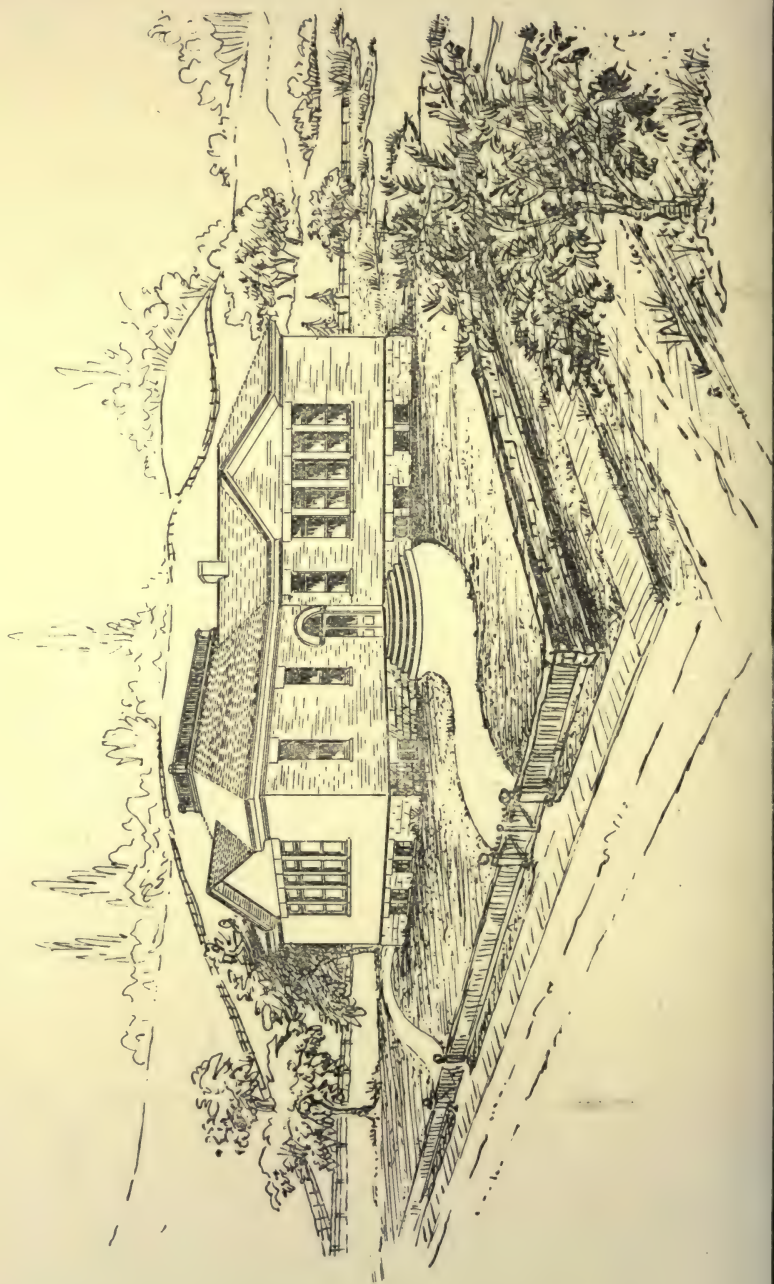




34



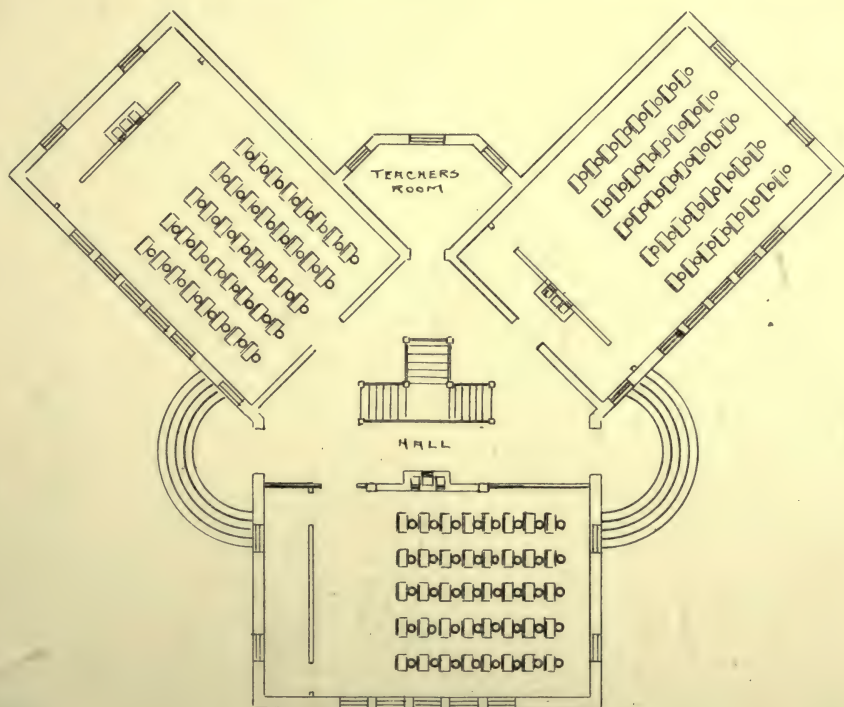
35



35

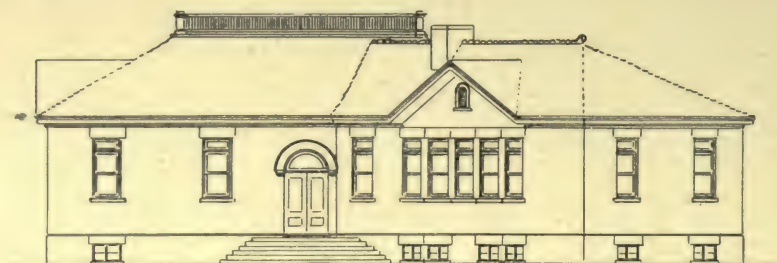


FRONT ELEVATION.

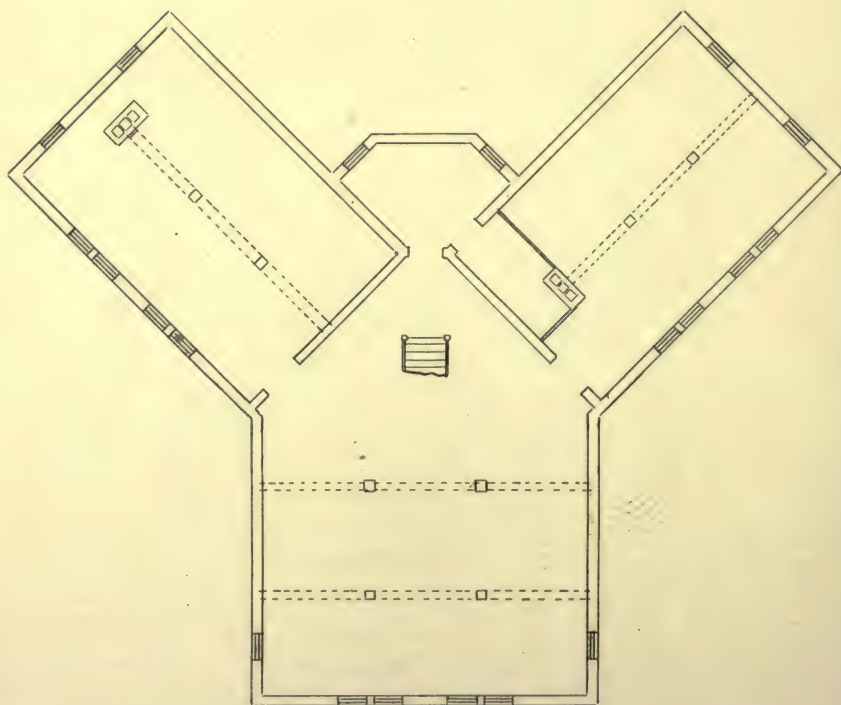


GROUND FLOOR.





SIDE ELEVATION.

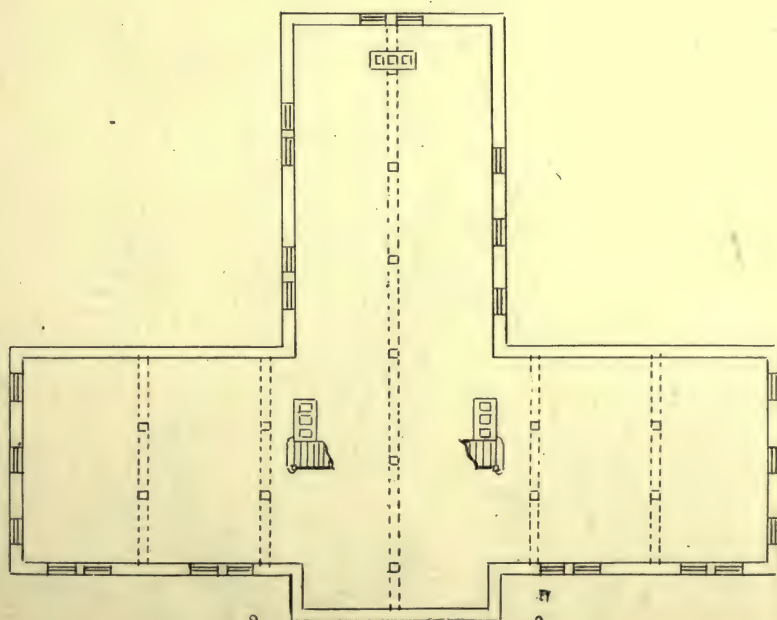


BASEMENT.

36

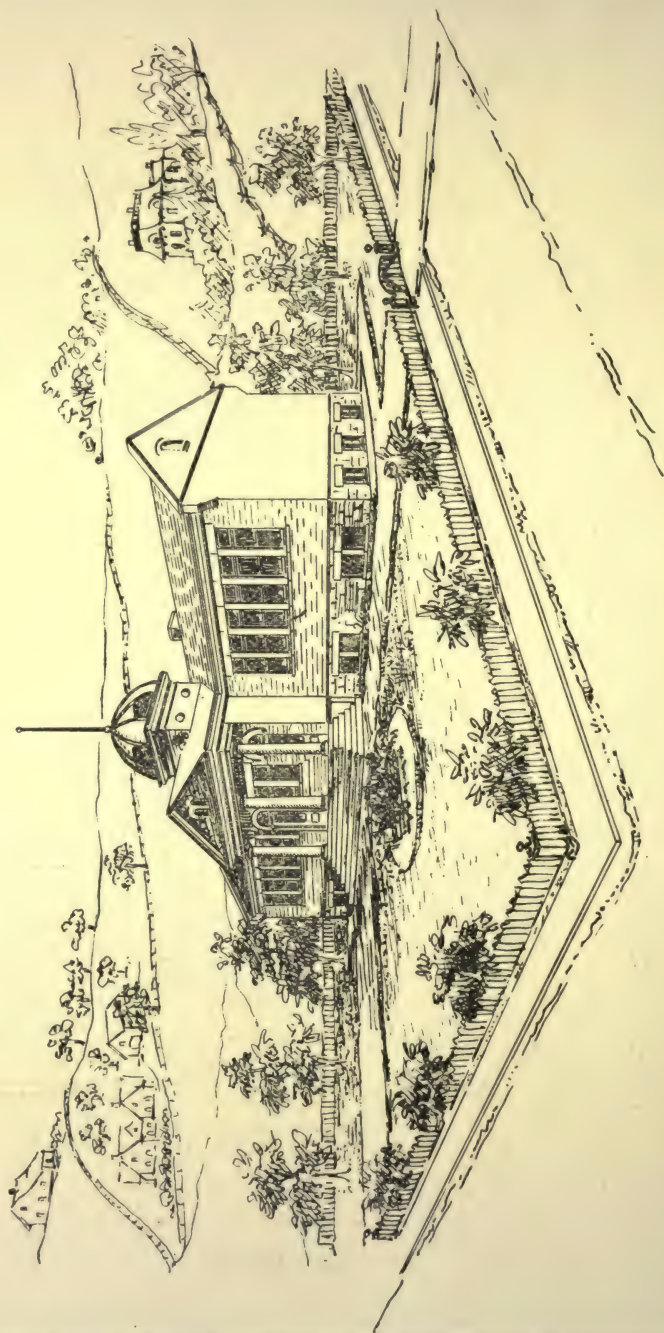


SIDE ELEVATION.



BASEMENT.

36

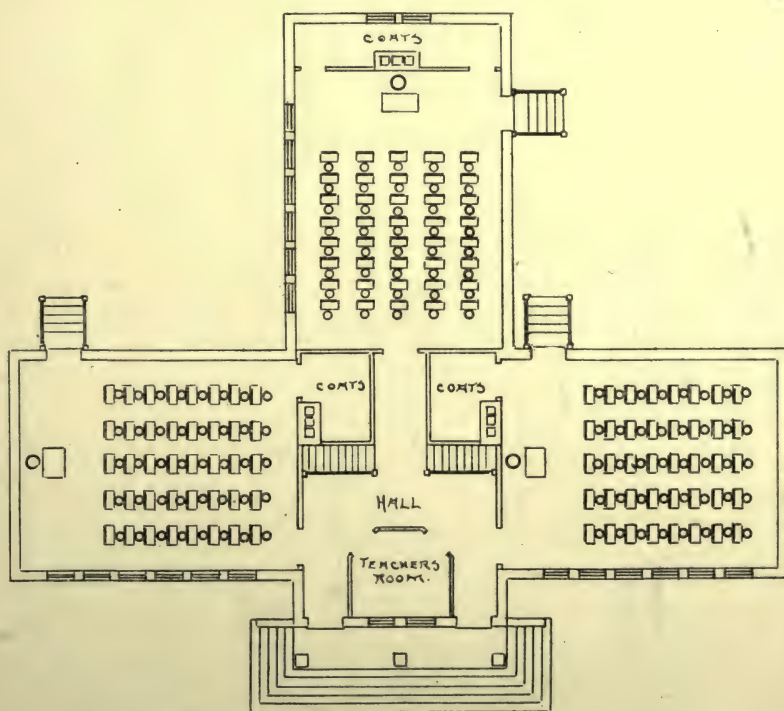




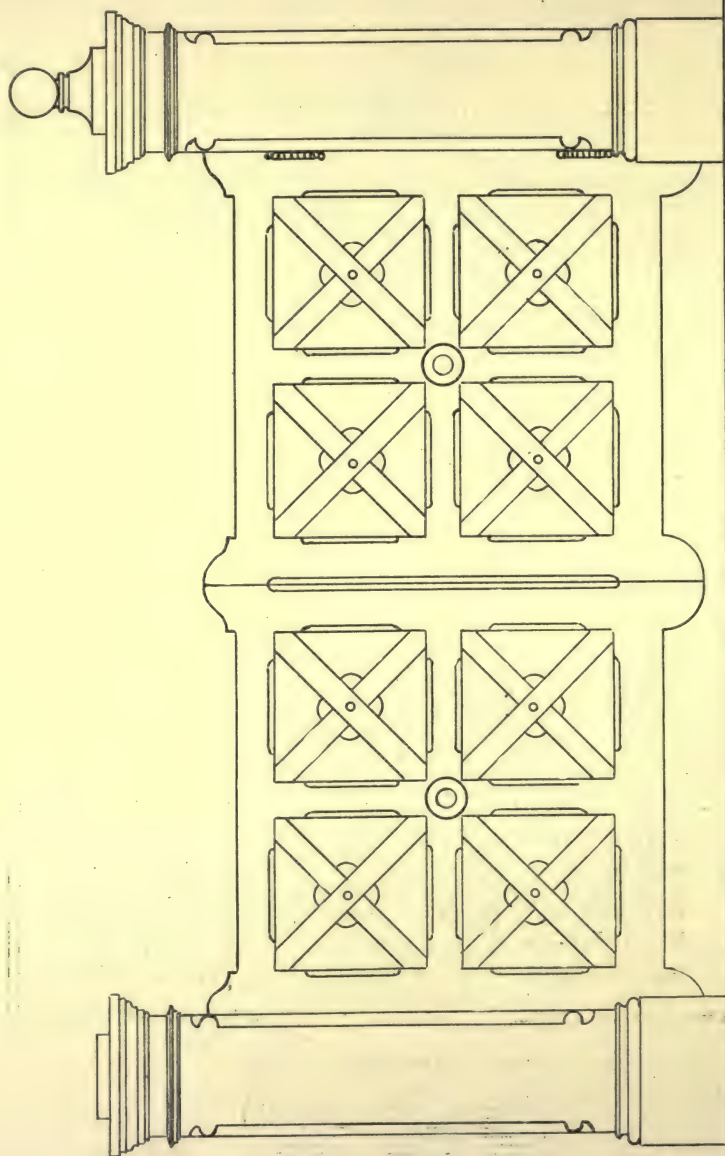
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FRONT ELEVATION.

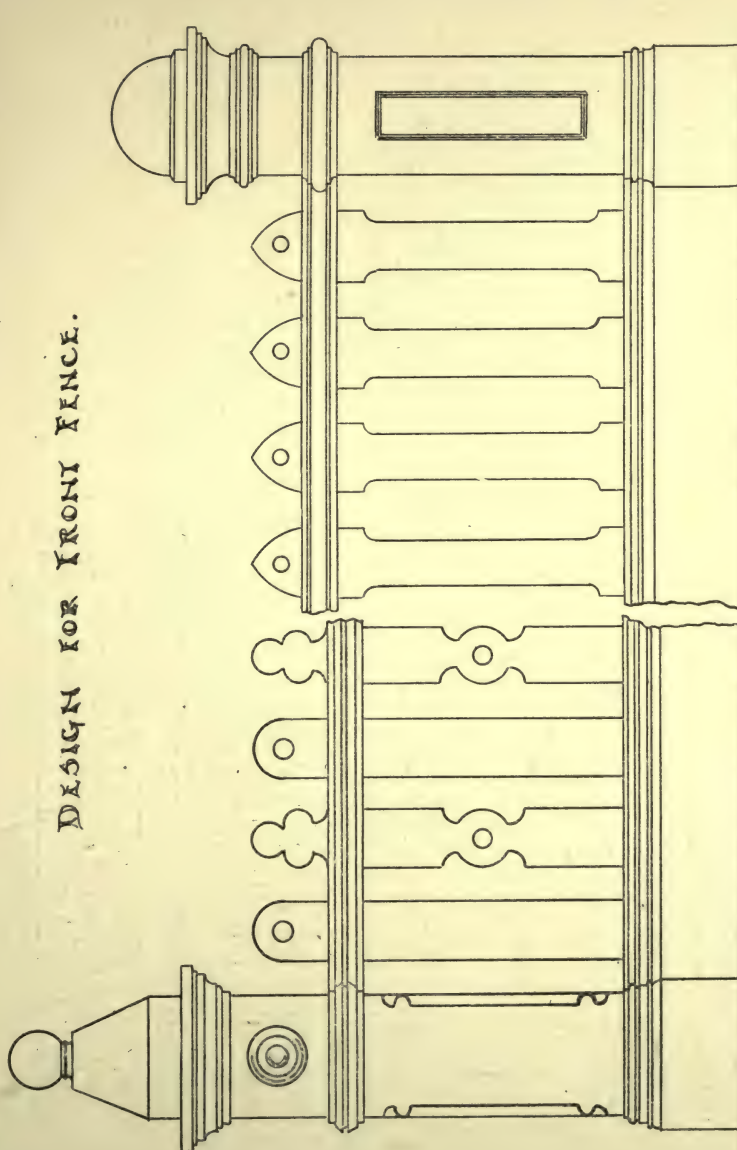


GROUND FLOOR.



SINGLE OR DOUBLE GATE.

## DESIGN FOR IRON FENCE.

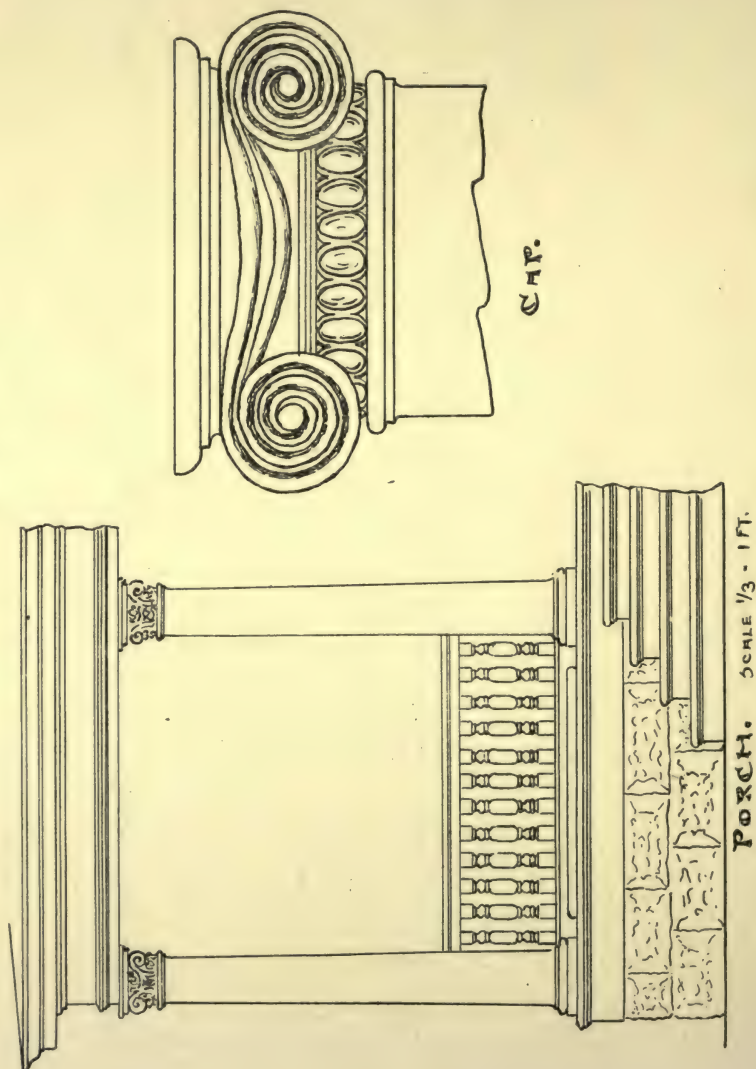


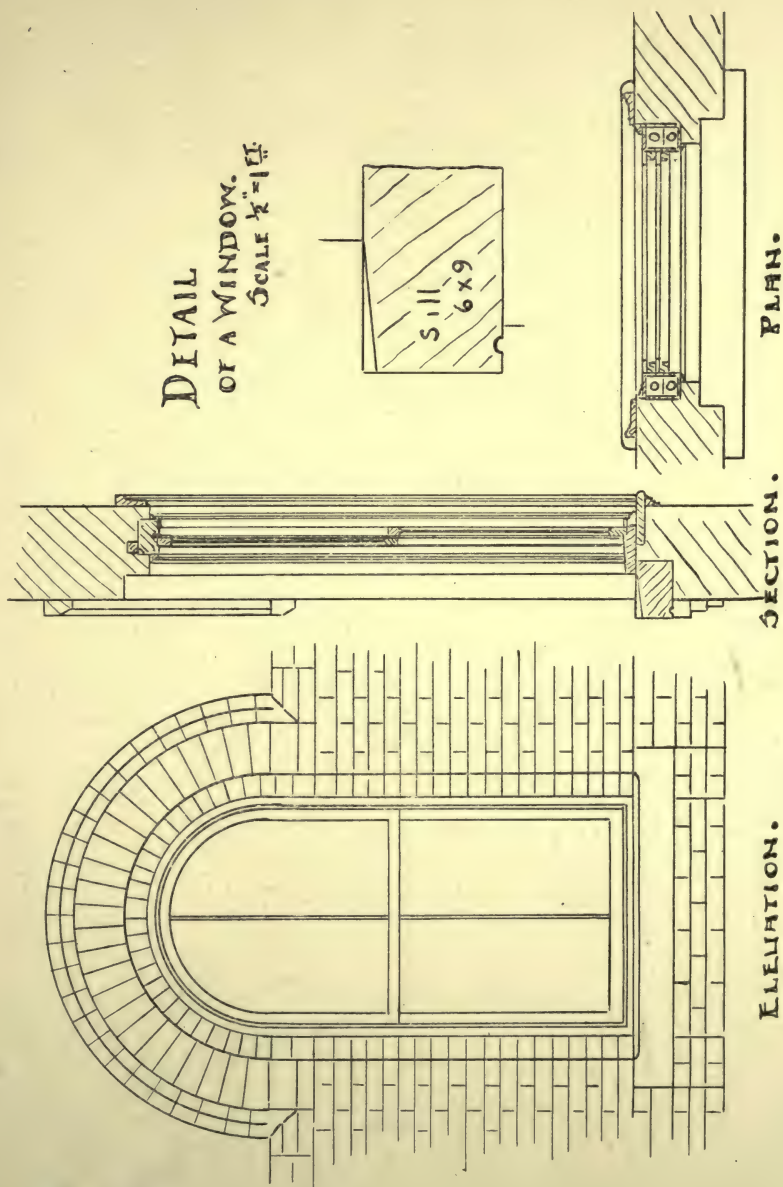
STRINGERS 2 X 6 AND 2 X 4  
 PICKETS 5 X 1 1/2  
 BASE 10 X 1 1/2  
 POSTS 8 AND 1 1/2 CM 52.

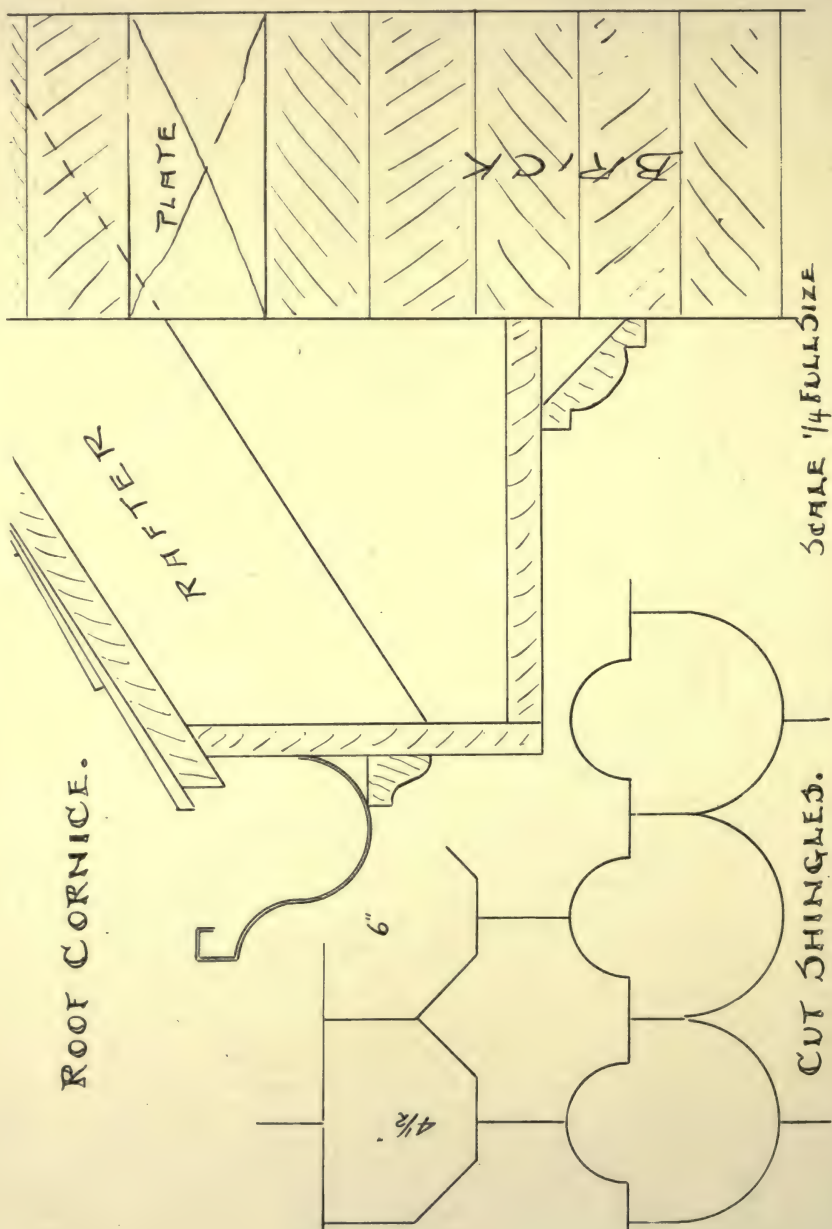
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 PICKETS 6 X 1 1/2  
 BASE 10 X 1 1/2  
 POSTS 8 AND 1 1/2 CM 52.



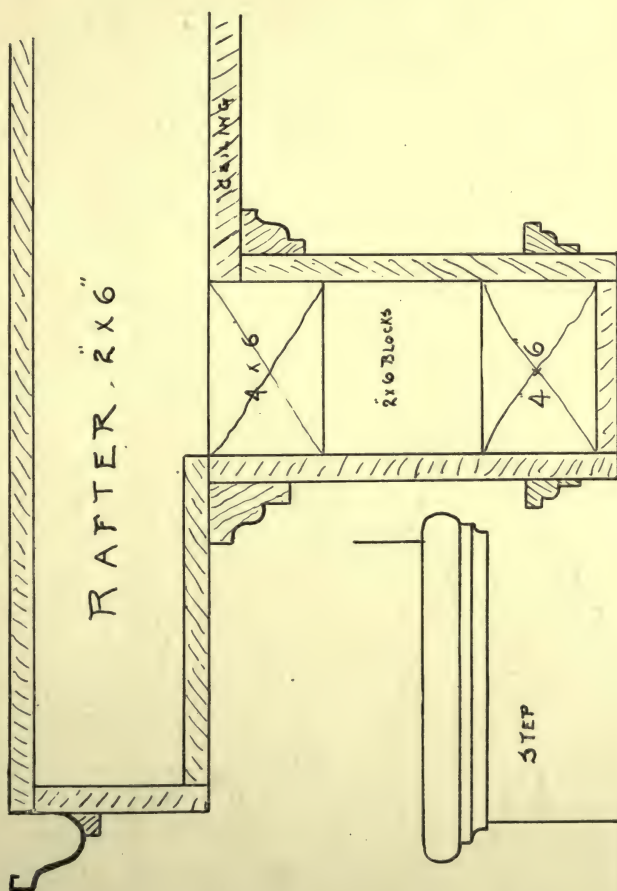
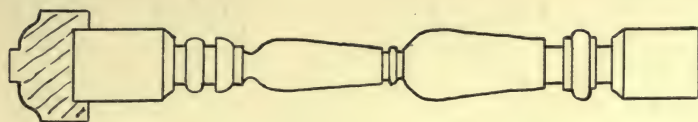
## DETAIL OF A PORCH.



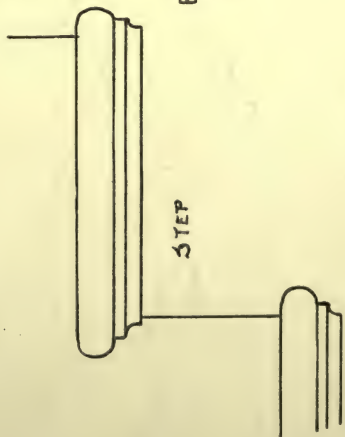


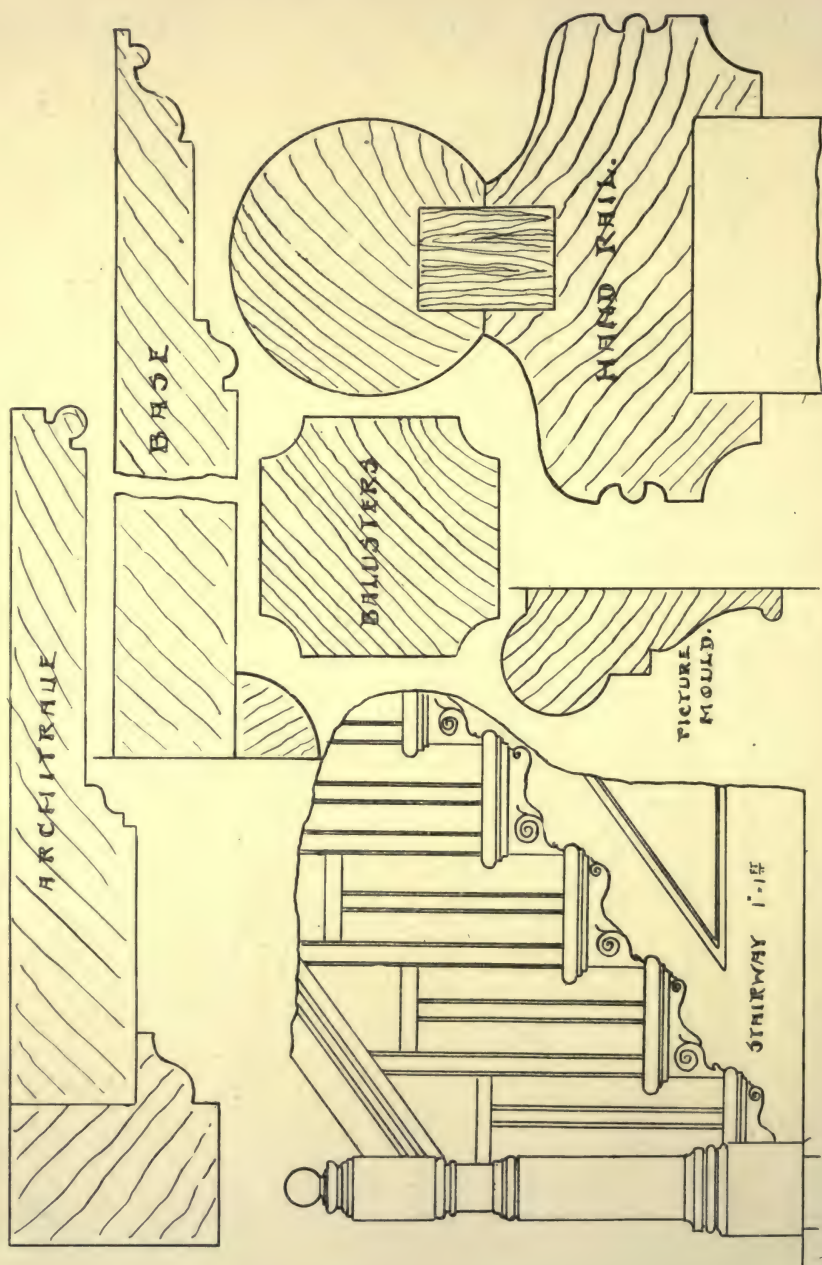




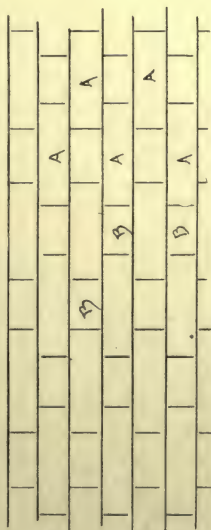


SECTION OF CORNICE.  
1/5 FULL SIZE.





# DETAIL OF BRICKWORK. SCALE 1"=1'



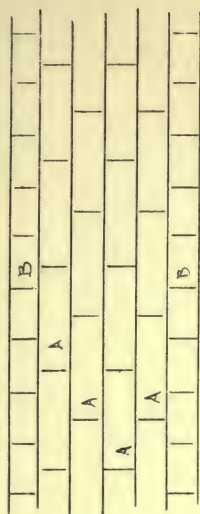
ELEVATION.  
FLEMISH BOND.  
A. STRETCHERS  
B. HEADERS



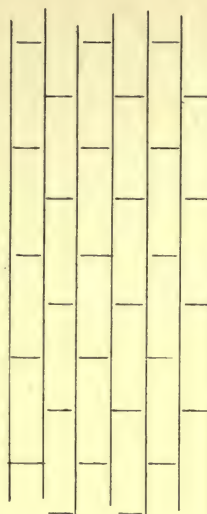
ELEVATION.  
ENGLISH BOND.  
A.C.E. STRETCHERS.  
B.D.F. HEADERS.



PLAN.



ELEVATION.  
CANADIAN BOND.  
A. STRETCHERS  
B. HEADERS

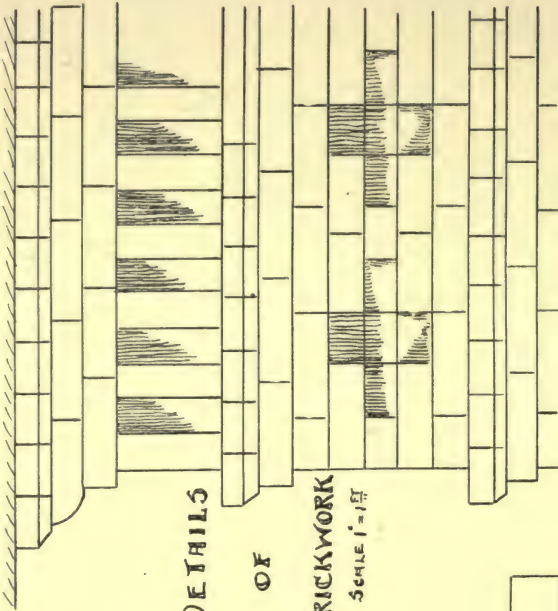


ELEVATION.  
AMERICAN BOND.



PLAN.





DETAILS

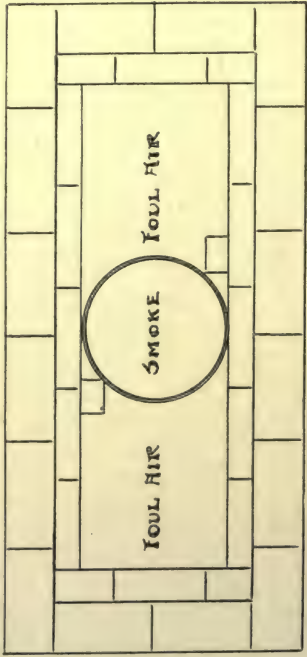
OF

BRICKWORK

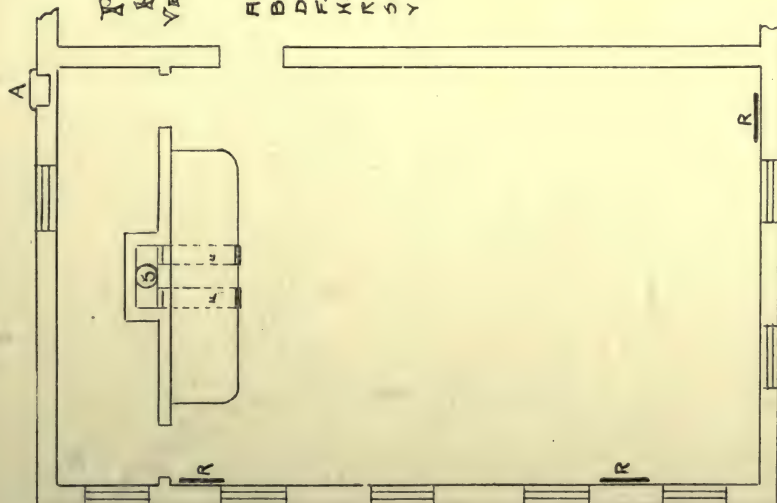
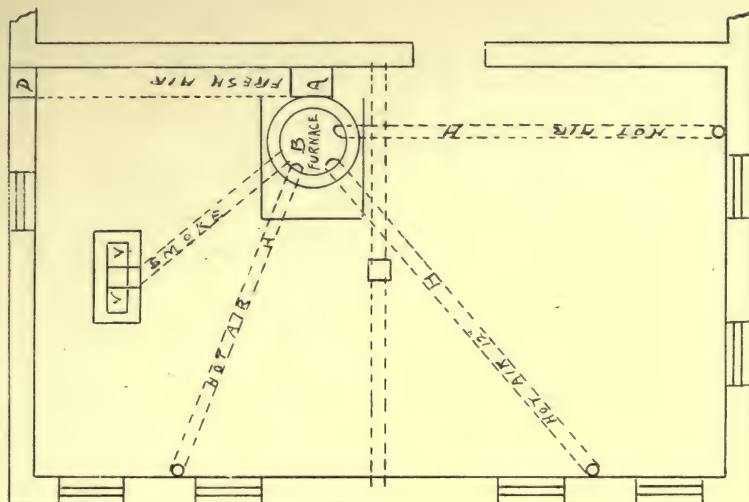
SCALE 1/4" = 1'

A CORNICE.

CHIMNEY



PLAN OF CHIMNEY.



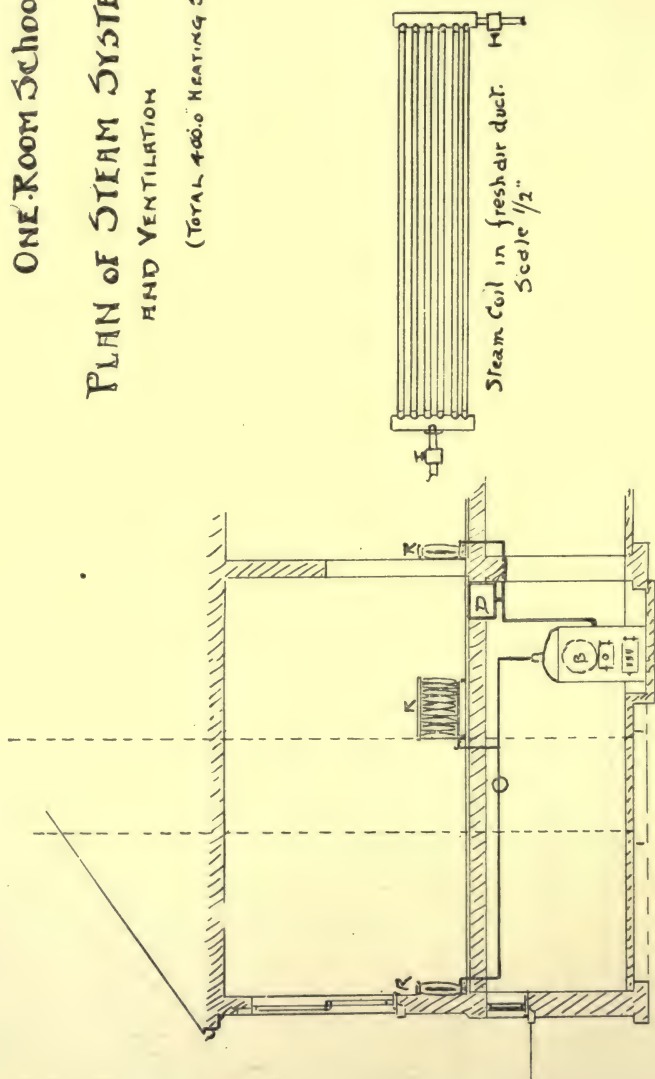
PLAN OF  
KNOX-FIRE  
VENTILATION  
SYSTEM.

- A. FRESH AIR INLET  
B. FURNACE  
D. FRESH AIR DUCT  
E. FOUL AIR DUCT  
K. HOT-AIR DUCT  
K. REGISTERS "AYER NOIR"  
S. SMOKE FLUE  
Y. VENTILATOR  
SCALE "B"

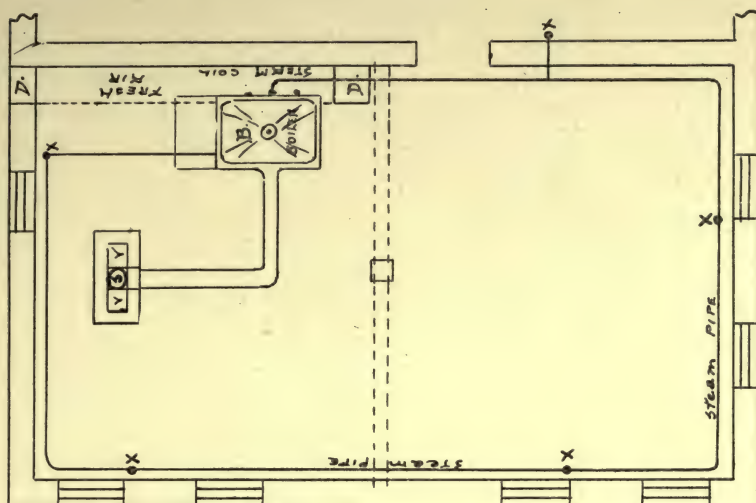
## ONE-ROOM School.

PLAN OF STEAM SYSTEM  
AND VENTILATION

(TOTAL 400.0 HEATING SURFACE)

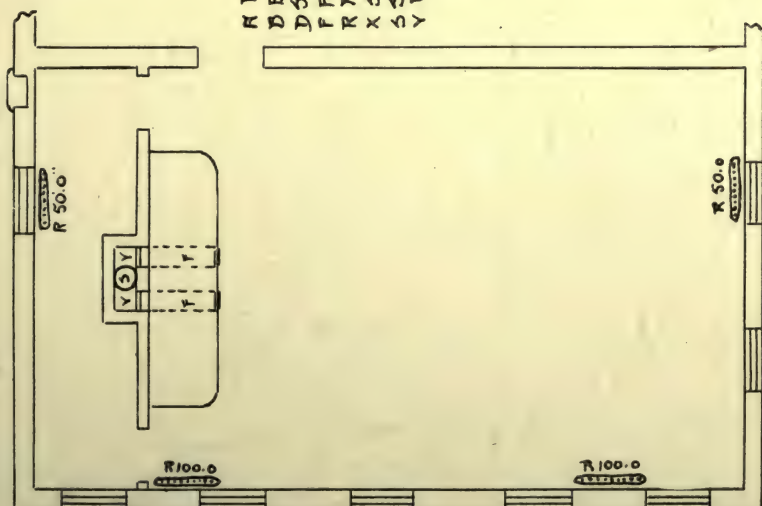




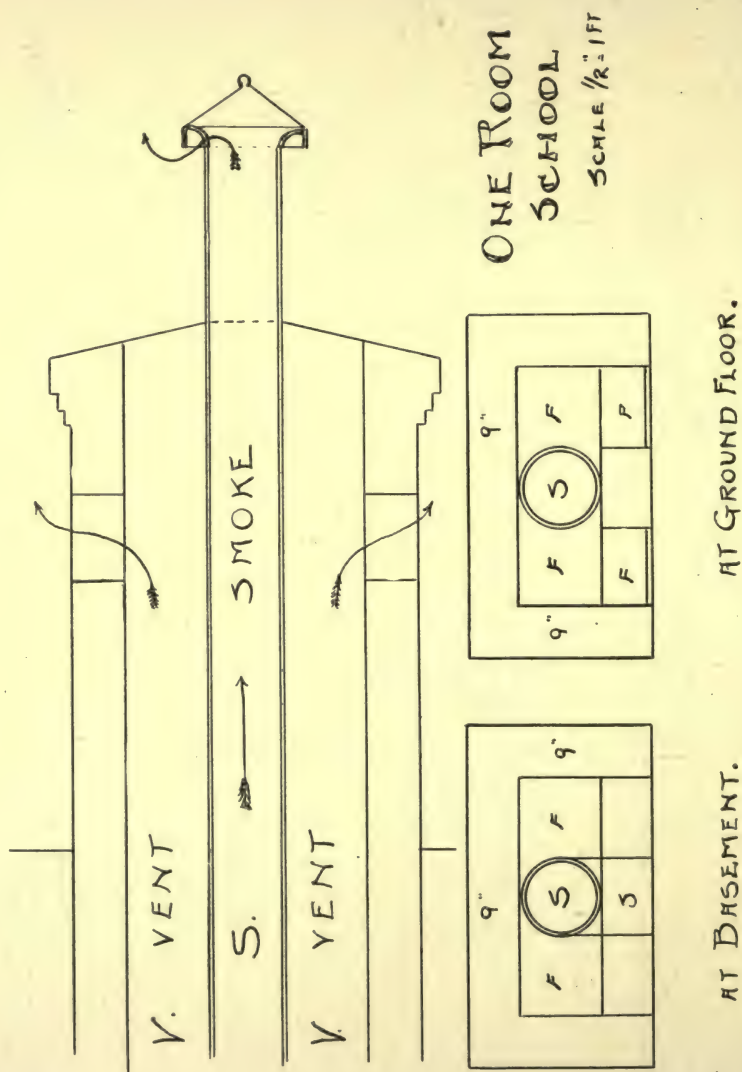


BASEMENT.

A FRESH AIR INLET  
 B BOILER, STEAM, DORIC No. 12  
 C STEAM COIL FRESH AIR OUTLET  
 D FRESH AIR OUTLET  
 F FOUL AIR OUTLETS  
 R RADIATORS.  
 X STEAM RISERS.  
 S SMOKE FLUE  
 Y VENTILATORS  
 SCALE 1/8"



GROUND FLOOR.



## NOTES ON THE PLANS OF THE SCHOOL BUILDINGS.

*Plan No. 1.* In this plan a small closet, 2½ feet by 6 feet, for school supplies might be provided at the back corner of the cloak-room, which may be divided into two, by a partition 8 feet high, moving one window a little, if necessary, so as to have light for each cap-room.

*Plan No. 2.* The work-room should be separated from the classroom by double doors on hinges or rollers. It should also be used as a library and a teacher's room. The window to the left of the teacher's desk is an elevated one, and is therefore free from the objection to ordinary windows to the right of the pupils.

*Plan No. 3.* The cloak-room may be divided by an eight-foot partition. Put double doors between work-room and classroom.

*Plan No. 4.* Use the closet at the right of rear row of pupils for school supplies. The hall between the vestibules may be divided by a partition. The girls might enter from the right and pass through the library into the classroom. The front window to the left of the pupils might be left out, but that would mar the appearance of the building. Better retain it, using panes of acid-cut glass.

*Plan No. 5.* The halls, enlarged by taking about two or three feet off each end of the vestibule, may be used as cloak-rooms, and the two coat rooms can be put into one room and used as a library and teacher's room. This is a desirable modification.

*Plan No. 6.* It would be well to have an additional door from the rear end of the hall to the coat-room. This would provide for separate coat-rooms. The teachers' room should be used as a library, being separated from the classroom by folding doors. At public meetings these could be thrown open. As the blackboard space is limited, the one at the side should be 4 feet wide as well as the front one.

*Plan No. 7.* The work-room may be used also as a teacher's room and library. It should be separated from the classroom by folding doors. The cloak-room may be divided into two, if desired.

*Plan No. 8.* Note the elevated windows to the right and rear of the pupils. These improve the lighting. The octagonal room will make an excellent library and teacher's room. It should be separated from the classroom by folding doors.

*Plan No. 10.* This building will present a fine appearance when completed. It might be well, however, to provide the entrance to the basement from the rear of the classroom.

*Plan No. 11.* This plan is especially recommended. The cost might, of course, be reduced considerably where there were not more than 35 or 40 children. Put double hinge or roller doors on the teacher's room. The basement should be divided for boys and girls.

*Plan No. 12.* Here the coat-rooms might be decreased to one-half their size, and a room for a library placed between them. Two of the six windows at the back might be moved nearer the centre and thus placed in the library, leaving two windows in each cloak-room.

*Plan No. 18.* This plan shows how plan No. 11 can be modified for a two-roomed school. In a locality where a second room would be needed in a few years, it would pay to put up such a building as this and leave the second story to be finished when needed.

*Plan No. 16.* On the second floor, the two rooms marked "coats" could be joined in one and used as a library, as there is sufficient room for coats and caps between the hall and the classroom.

*Plan No. 17.* This plan shows how plan No. 6 can be easily modified to make a two-story school.

*Plan No. 20.* In the right hand room a second door might be put into the cloak-room just at the far side of the chimney.

*Plan No. 27.* Three-story school-rooms are not desirable. Hence only one three-story plan is given for a school with three classrooms.





## Outside School Premises.

### School Grounds.

The school site shall not be less than one acre in area, unless, owing to the smallness of the attendance or to other local conditions, the Inspector finds a smaller area permissible; but in that case the area shall not be less than half an acre. It shall be accessible by good highways and not exposed to disturbing noises or noxious odours, and shall also be at a safe distance (not less than 100 yards) from stagnant water. The grounds shall be properly levelled and drained and provided with suitable walks, and shall be sufficient in extent for school games and for an ornamental plot in front. They should also be set out with trees and ornamental shrubs, and enclosed with a neat and substantial fence or hedge, with suitable gates. Where practicable, provision should be made for school gardens. In order to ensure good drainage and water supply, the soil should, if practicable, be sandy or gravelly, not clayey or peaty. No trees shall be placed so close to the school building as to check the free passage of air and light. (See Frontispiece.)

The Departmental pamphlet entitled "Improvement of School Grounds," already published, contains full particulars as to laying out and beautifying the school grounds.

### Disposal of Refuse.

To keep the grounds neat and clean, every playground should have at least one receptacle for all waste paper, scraps of food, etc. This receptacle should be constructed of wood and galvanized iron, or entirely of galvanized iron or of close-meshed wire. For convenience of removal it might be placed on wheels and provided with a tongue or handle. In order to keep the contents as dry as possible, the top should be slanting like a cottage roof and hinged at the apex. Where the playground is small and there is only one such receptacle, it may be placed in an opening provided for it in the fence between the girls' and the boys' yard if there is a division, one-half facing each of the playgrounds.

The contents should be regularly removed to some remote point and burned, or, where a furnace is in use, they should be burned after school hours.

An open box or other receptacle is very objectionable. It attracts flies and vermin; when the contents become wet, the putrefaction which soon follows creates a nuisance; and, in windy weather, the lighter portion of the contents becomes widely scattered over the yard.

### Water Supply.

The water supply shall be pure and adequate. There should be on the premises a well (artesian, if at all practicable) of good drinking water, with a neat pump and platform, properly protected against pollution from surface drainage or any other source. If a dug well, it shall be thoroughly pumped and cleaned out at the close of each vacation and at such other times as may be deemed advisable by the Inspector. Graniteware pails with covers, or, preferably, earthenware or graniteware water-tanks with covers, and drinking cups of glass or good enamelled ware, shall be provided and kept scrupulously clean. Where there is no well, or it is a poor one, other provision, satisfactory to the Inspector, shall be made for an adequate supply of good water.

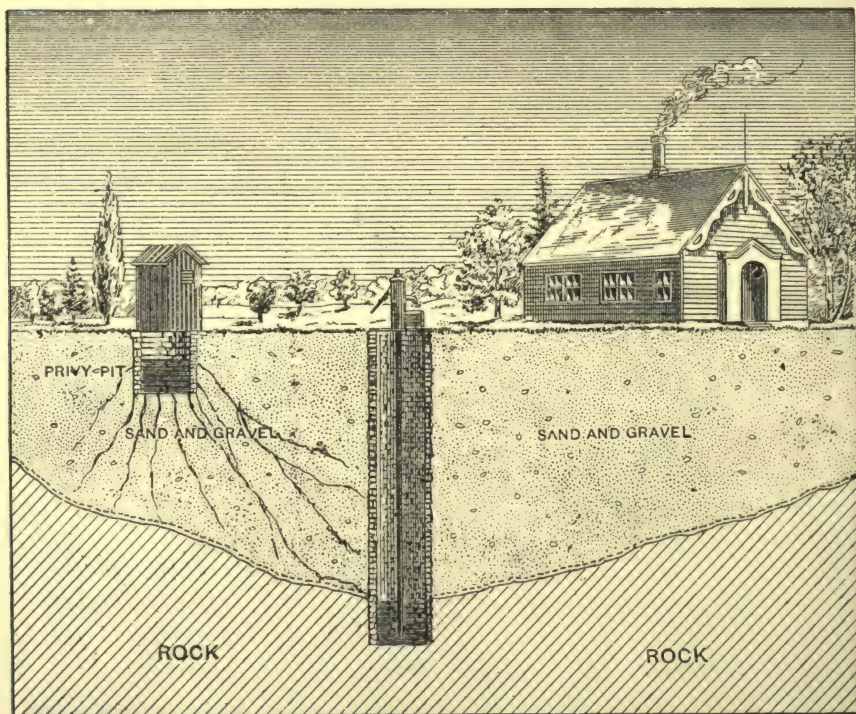


Illustration to show the pollution of a school well by seepage from the privy vault.

### *Sources of Pollution.*

In urban schools with a public water works system the tap should be the only source of supply. In all centres of population wells should be abolished, owing to the great and ever increasing danger of pollution which arises from surface washings or seepage and from underground contamination.



In rural schools the supply of drinking water is derived from a well or a spring. The well and the spring water are similar in origin. The spring is simply the underground water which comes to the surface owing to some peculiar formation in the earth's strata. The well is man's device to bring to the surface what the natural formation does not permit to reach it at the point where he wishes to use it.

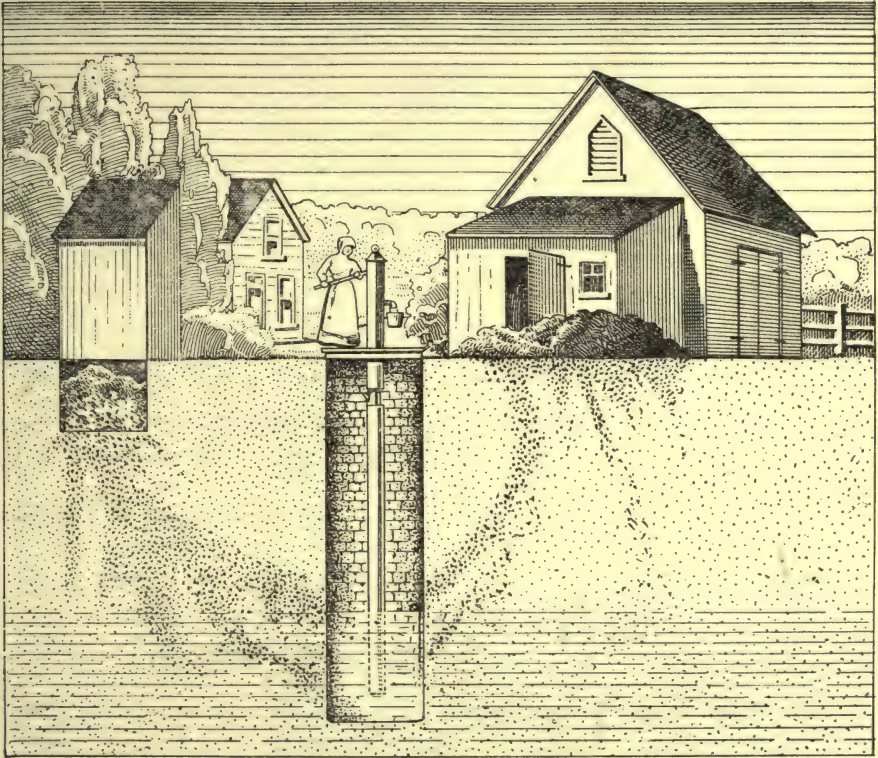
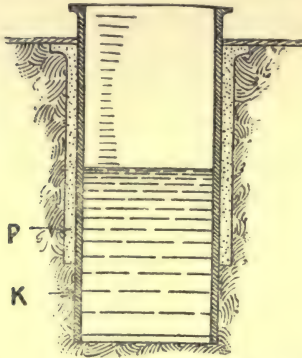


Illustration to show what is too common, the pollution of a farm well by seepage from the privy vault and the manure heap.

A well may tap some ground stream or vein of water which is connected with a swamp a long distance off; but the chief cause of pollution is the material of animal origin which has been deposited upon the surface of the earth or in pits dug therein. In the former case, pollution takes place after each rainfall; while, in the latter, the liquid contents of pits or cesspools are constantly draining away to the most accessible point, which is, generally, the well. In this case the pollution is more or less constant, but it is greater after heavy rainfalls, for then the underground waters rise to a higher point than in dry weather. The figures on pp. 96 and 97 illustrate the danger of water pollution in school and farm wells.

Where spring water is used, the greatest care must be exercised to prevent pollution at the point where the water is taken. The possibility



of surface water mixing with the spring water should be guarded against, and, for this purpose, where the adjacent ground is higher than the spring a ditch or trench should be dug so as to carry off all surface washings. A concrete protecting wall, as at P. in the figure shown, placed around the spring will be found very efficient in securing this object.

The same figure also illustrates how further safeguarding can be secured. An impervious lining (steining), as shown at K., should always be provided as deep as practicable, and this lining should be carried above the surface to prevent any matter from flowing in from the top. A cover should also be provided.

#### *Tests for Pure Water.*

Hygienically pure water should fulfil the following conditions:—

- (1) It should be free from smell; any smell whatever shows contamination which is probably harmful.
- (2) It should be colourless, or, when in large quantities, of a bluish tinge.
- (3) There should be no suspended matter; that is, no deposit formed after the water has stood for some time.
- (4) The taste should be pleasant; any bitterness or saltiness is suspicious.
- (5) It should not be very hard.
- (6) It should be well aerated. This is shown by its sparkling appearance.

It must, however, be remembered that, because of its great solvent properties, water in nature is never chemically pure.

**NOTE.**—On application to the Chief Health Officer, Parliament Buildings, Toronto, the Provincial Board of Health will examine free of charge any specimens of water sent by school boards. On application, this officer will supply the necessary sterilized bottles, instructions for taking samples, etc., and he is ready at any time to furnish information to trustees on sanitary matters. When, on testing the water as indicated above, there is any reason to suspect its purity, it is far better for Trustees to communicate with the Health Officer; and it is the duty of the Public School Inspector to see that, when he considers it necessary, this step is taken.



### Closets.

The closets for the sexes shall be under separate roofs and placed at least 50 feet from the well and at least 25 feet from the rear of the school building (unless where flushed by an adequate water system), to prevent pollution of the well or of the air of the classrooms. Each closet-room shall contain a sufficient number of compartments properly lighted and ventilated. The closets shall be lined with glazed brick or similar material; or with wood, painted a suitable colour and sanded, with floors of cement, brick, or hardwood, placed at least a foot above the ground. Doors or half doors, to secure privacy, especially in the case of the older pupils, are very desirable. Urinals should be provided for the boys. (For details see pp. 103-105.) There shall be locked compartments for the teachers. Suitable walks shall be laid from the doors of the school building to the closets, so that the closets shall be accessible with comfort at all seasons of the year; and provision shall be made for keeping the walks free from snow in winter. At the discretion of the Inspector, a high close board fence or a hedge or a wall shall be provided between the boys' and the girls' side, from the closets towards the rear of the lot and towards the school building; and unless there is a high, close board fence, the closets shall be placed at least ten feet distant from each other. The entrance to the closets shall be properly screened at least in front (spruce trees preferred), and the Principal shall see that the doors are securely fastened after school hours and are opened before school hours. The closets shall be cleansed monthly, if possible, and the urinals shall receive daily attention.

#### *Position of the Woodshed and Closets.*

The woodshed may be placed at some distance from the school-house, or immediately in rear thereof, with or without doors opening into the school-room, and the doors should be placed, one at each end of the school wall. With a partition down the centre of the woodshed, a covered passage may be provided to the water closets at the rear. To prevent the possibility of the air of the school-room being polluted, the closets should be placed about ten feet in rear of the woodshed, with a division between the grounds and a covered way. If, however, the closets are placed close to (not *in*) the woodshed, the greatest care must be taken to have them regularly cleaned and disinfected and thoroughly ventilated. For the location of the woodshed and closets, see the plan of the School Premises on p. 106, and more particularly the Departmental pamphlet entitled "Improvement of School Grounds."

#### *Number of Seats.*

Of closet seats, there should be one for every fifteen boys and one for every ten girls. The height of the seat should not be greater than fifteen inches from the floor, while for young children this should be reduced to twelve inches by the construction of a step, as is shown in



the figures on pp. 103 and 104. This reduction is an important matter, as children are very apt to rupture themselves when using a closet seat which is too high. Incidentally, the necessity for frequent inspection of the closets by the teacher may here be emphasized, and the children should be systematically instructed in the necessity for decency and cleanliness in their use.

#### *Kinds of Closets.*

In schools, in particular, the safe and proper disposal of the excreta from the body is a most important question; for in the schools are gathered together those who, owing to their youth, are most susceptible to the filth diseases. Moreover, if sanitary matters are neglected at school, our future citizens cannot but acquire a school-taught standard of dirt and carelessness. Where there is a well designed and a properly constructed sewerage and flushing system, the dangers are not great. But, if the plumbing work has been carelessly done, the dangers are very great, indeed. Hence, the plumbing and sanitary conveniences should be not only carefully looked after, but scientifically constructed.

**Dry Earth :** In towns and villages without a sewerage system, the most satisfactory kind of school closet, WHEN IT IS CAREFULLY LOOKED AFTER, is that known as the dry-earth closet. In it, a metal pail or pan is used for the excreta, and dry earth is regularly added to deodorize and humefy the contents. A plan of such closet is shown in the figure on p. 103 and at C. in the figure on p. 105. Such a closet may be provided either in the school-shed or outside.

The chief points to be observed in the construction of the dry-earth closet are as follows :—

(1) The space beneath the seat should be floored with some impervious material which can be easily cleaned, such as solidly faced concrete.

(2) The pan should fit the space so that its outside and the floor of the space will not be soiled when the closet is used. The top of the pan should be not more than  $1\frac{1}{2}$  inches below the under surface of the seat, and should be large enough to project well in front and behind the seat opening. Wooden guides fastened to the under surface of the seat will ensure that the pan is placed in proper position.

(3) The space under the seat should be ventilated, and there should be a door at the back to allow of the removal of the pan.

(4) A box or scoop should be provided for the earth.

Such a closet, WITH GOOD MANAGEMENT, can be almost as safe and wholesome as the best water closet.

The rules for good management are :—

(1) Daily inspection to ensure that the supply of earth is properly maintained and used, and that fouling of the outside is not taking place.

(2) Arrangements for frequent removal and proper disposal of the contents.

As to the proper earth to be employed, the best is garden mould, as it contains micro-organisms necessary for the work of humefaction and deodorization.

The difficulty so often met with in earth closets for girls may be overcome by providing a saw dust urinal fitted with a seat.

**Draw-box:** On account, however, of the difficulty of having the dry-earth closet properly looked after, it is not suitable for most rural schools. For them, the outdoor, detached closet is the most easily provided and looked after, as well as being, with ordinary care, the safest.

The ground on which the outdoor closet is built should be raised a little, and, when pails or pans are not used, the excreta should be caught in a draw-box made of wood and, if practicable, lined with galvanized iron, the lower edge of the side facing the rear being about an inch from the bottom of the draw-box. Through this slit, the urine should be drained and carried on a projection of the bottom outside the building where it can drop on raised ground or into a shallow pit filled with pebbles or broken stone, and thus be exposed to the sunlight. A channel for the urine, may, however, be provided as in the right hand figure at the bottom of p. 103. This channel which also drains the urinal slopes towards an opening into a shallow depression or trench, as described above. The dry excreta in the box can be emptied easily and will give off no offensive odours, and the sunlight will deodorize the urine. The outdoor closet will lose its usually offensive character if treated in this simple way.

The ordinary out-door closet is generally too small, besides being unventilated. The sides and bottom of the compartment in which the box is enclosed, should be of solidly faced cement rather than of wood, and should be wholly above ground. It should have a door securely locked through which the excreta may be regularly removed. It should also be provided with a ventilating pipe carried well up above the roof, and fitted with a hood at the top. If this is well done there will be a moderate and constant current of air down through the seats and up through the ventilating pipe, so that no odour will be noticed, even directly over the seats. There should also be a window so situated as to admit as much direct sunlight as possible. If the urinals are under the same roof as the closet, they should be placed immediately opposite the door; if, under another roof, they should be placed so that they may be reached more readily than the closets.

#### *Urinals.*

The simplest form of urinal consists of a wooden trough, triangular in section, about eighteen inches deep and twenty inches wide at the



top, placed from a foot to eighteen inches above the ground. If practicable, it should be lined with zinc or galvanized iron. The length depends upon the number of boys using it. No urinal should be less than four feet long, and there should be an additional foot for every twelve boys after the first twelve. Whether connected with the closet compartments or in a separate building, the urinal should slope to one end, with a pipe leading from the lower end to a shallow depression or trench outside, full of small stones to give drainage. The trough should be filled with clean sawdust or dry loamy surface earth, while a movable cover of galvanized wire netting over the top of the trough is useful to prevent mischievous meddling with the sawdust or earth. The urinal should be protected at least by a roof to keep out the rain and snow; it is better to have a door opening outwards as well. Its effectiveness depends mainly upon evaporation, and it will not work properly if allowed to become sodden. There are several improved forms of this urinal, but the above is the simplest.

The plans on pp. 103 and 104, provide for urinals and closets under the same roof. In the plan on p. 105, only the closet plan is given. A separate building should be provided for a urinal.

The flow from such a urinal is small in amount and will decompose when exposed to the air. Once a week the surface of the pit and trough should be raked over, and frequent refilling will be necessary.

#### *Cesspools and Privy Vaults.*

*Experience shows that cesspools and privy vaults are dangerous and should not be used.* Unless water-tight, they contaminate the ground water and are therefore a serious menace to a school well. There is, besides, the difficulty of cleaning them out. It must also be remembered that all forms of closets other than those connected with a water and sewerage system are wholly dependent for safe results upon the dryness and the regular humefaction of their contents. It is better not to use deodorants and the so-called disinfectants in connection with them; for, when not properly used, these substances merely serve to conceal dangerous conditions.

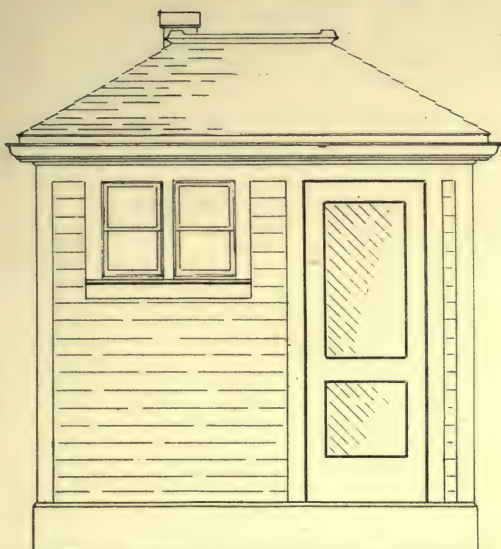
#### *Disposal of the Excreta.*

The excreta should never be deposited in any place where they can possibly contaminate the water supply or otherwise give rise to danger. Nor should they be deposited within the school grounds. If buried they should be placed in a trench about eight inches deep and covered with four to six inches of clean earth. Deep burial is not required; for the nitrifying organisms of the earth live only near the surface.

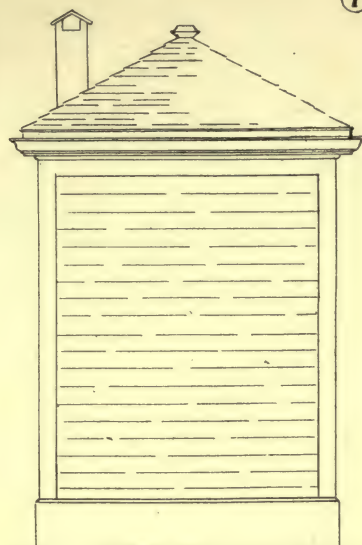


PLANS FOR CLOSETS.

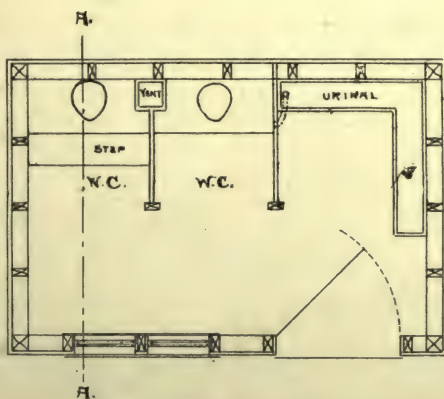
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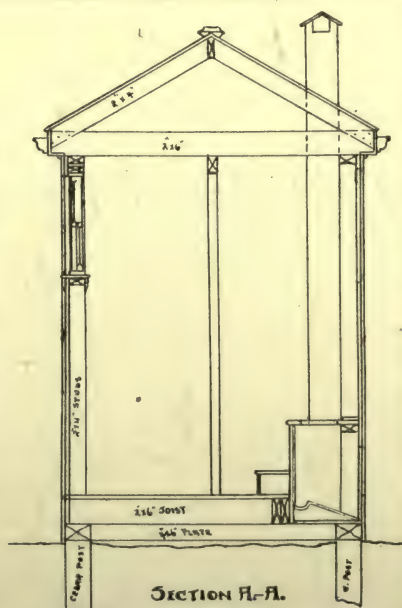
FRONT ELEVATION.



SIDE ELEVATION.



PLAN OF CLOSET.



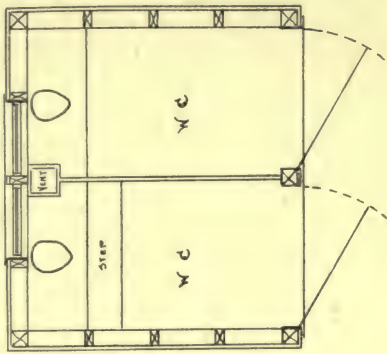
SECTION A-A.

Scale, 4 feet to the inch.

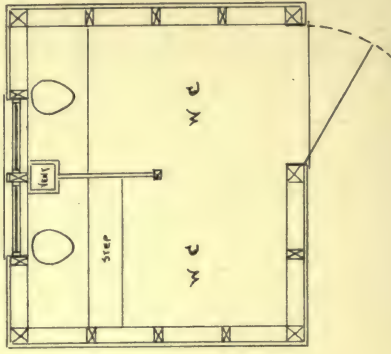
PLANS FOR CLOSETS.

GIRLS.

④

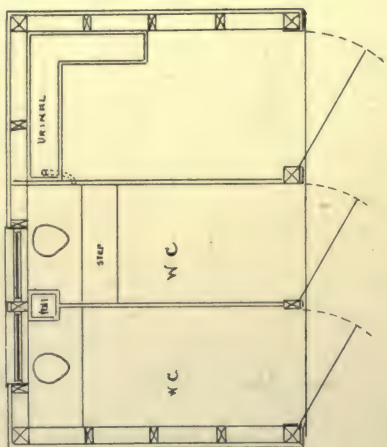


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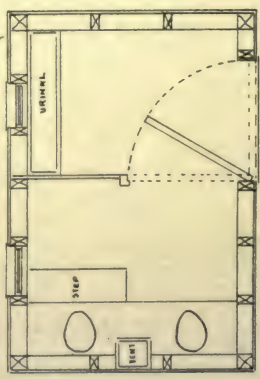


BOYS'

②

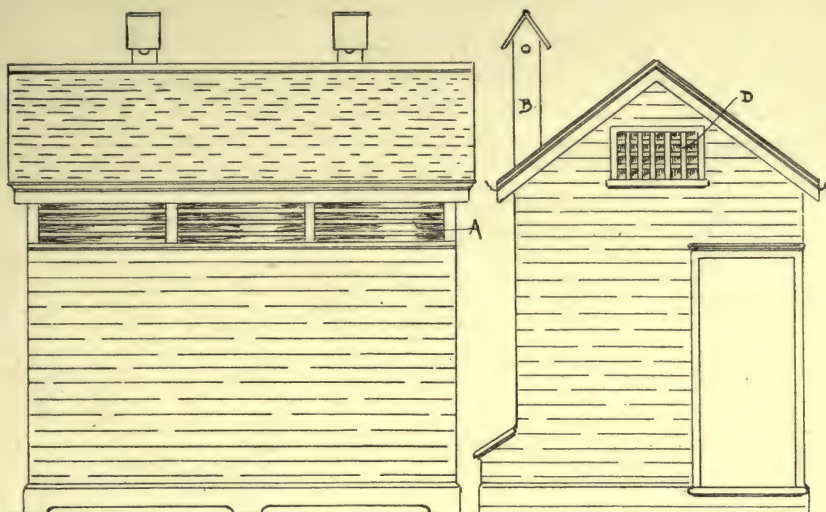


③



Scale, 4 feet to the inch.

PLANS FOR CLOSETS.



FRONT ELEVATION

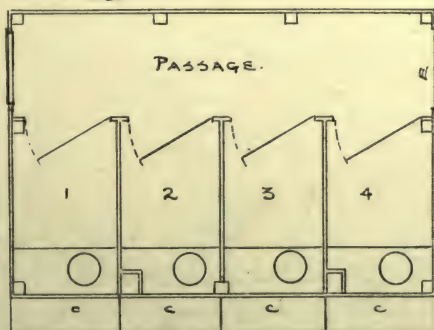
SIDE ELEVATION.



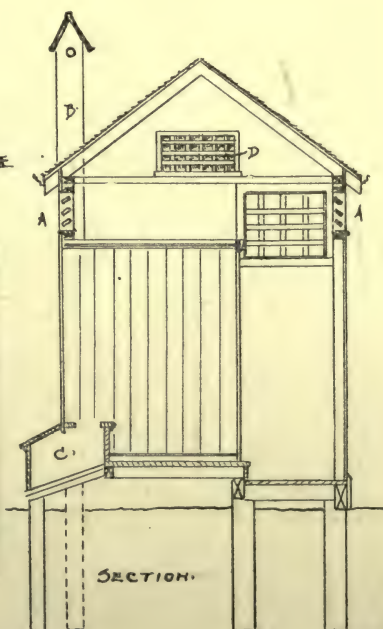
LOUVERS 1" SCALE

- A VENT LOUVERS
- B VENT STACK
- C EARTH-BIN
- D LATTICE.
- E. OPEN ENTRANCE

SCALE 1/4"



PLAN.

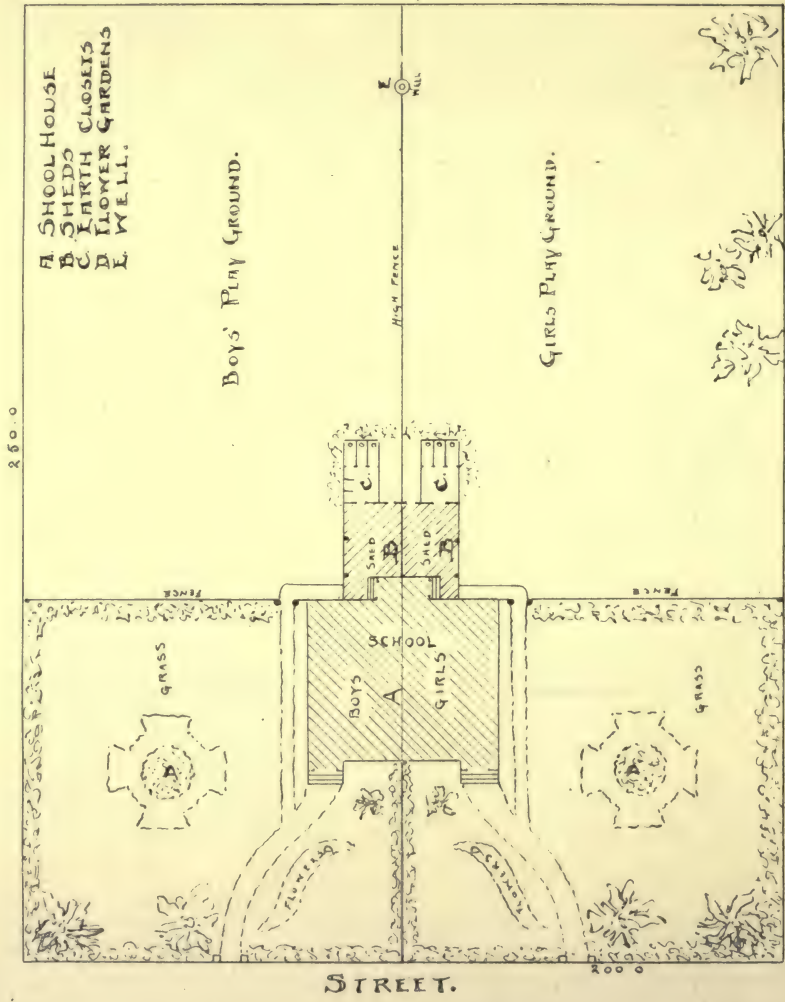


SECTION.

Scale, 4 feet to the inch.



LOCATION OF SHED AND CLOSETS.



## APPENDIX A.

## ESTIMATE OF COST OF SCHOOL BUILDINGS.

## ONE-ROOM SCHOOL.

<i>Plan.</i>	<i>Cost.</i>	<i>Pupils.</i>
No. 1 Frame, concrete foundation, shingled roof....	\$1,250	45
No. 1 Brick, stone foundation.... metal shingles...	1,440	45
No. 2 Frame, concrete foundation, shingled roof....	1,200	45
No. 2 Brick, stone foundation.... metal shingles...	1,640	45
No. 3 Frame, concrete foundation, shingled roof....	1,250	40
No. 3 Brick, stone foundation.... metal shingles...	1,670	40
No. 4 Frame, concrete foundation, shingled roof....	1,240	48
No. 4 Brick, stone foundation.... metal shingles...	1,720	48
No. 5 Frame, concrete foundation, shingled roof....	1,460	48
No. 5 Brick, concrete foundation, slate roof. ....	1,750	48
No. 6 Frame, stone foundation... shingled roof....	1,600	40
No. 6 Brick, concrete foundation, slate roof .....	1,850	40
No. 7 Frame, concrete foundation, shingled roof....	1,600	40
No. 7 Brick, concrete foundation, metal shingles...	1,850	40
No. 8 Frame, concrete foundation, shingled roof....	1,630	43
No. 8 Brick, stone foundation, metal shingled roof	1,875	43
No. 9 Frame, stone foundation... shingled roof....	1,700	54
No. 9 Brick, stone foundation,.... metal shingles...	2,000	54
No. 10 Frame, stone foundation... metal shingles...	1,680	45
No. 10 Brick, stone foundation ... metal shingles...	2,000	45
No. 11 Frame, stone foundation... shingled roof....	1,720	54
No. 11 Brick, stone foundation.... slate roof.....	2,040	54
No. 12 Frame, stone foundation... metal shingles...	2,160	54
No. 12 Brick, stone foundation.... slate roof.....	2,520	54

## TWO-ROOM SCHOOLS.

No. 13 Frame, stone foundation... shingled roof....	\$2,400	90
No. 13 Brick, stone foundation.... metal roof.....	2,640	90
No. 14 Frame, concrete foundation, shingled roof....	2,400	90
No. 14 Brick, stone foundation.... metal roof.....	2,640	90
No. 15 Frame, concrete foundation, shingled roof....	2,260	90
No. 15 Brick, stone foundation.... metal roof.....	2,700	90
No. 16 Brick, stone foundation.... metal roof.....	2,600	80
No. 17 Frame, concrete foundation, shingled roof....	2,640	80
No. 17 Brick, stone foundation.... metal roof.....	2,850	80

TWO-ROOM SCHOOLS.—*Continued.*

<i>Plan.</i>	<i>Cost.</i>	<i>Pupils.</i>
No. 18 Brick, stone foundation.... metal roof.....	\$3,000	90
No. 19 Frame, concrete foundation, shingled roof....	2,570	90
No. 19 Brick, stone foundation.... metal roof.....	2,800	90
No. 20 Frame, concrete foundation, shingled roof....	2,650	90
No. 20 Brick, stone foundation.... metal roof.....	2,860	90
No. 21 Brick, stone foundation.... metal roof.....	2,000	80
No. 22 Frame, concrete foundation, shingled roof....	2,800	90
No. 22 Brick, stone foundation.... metal roof.....	3,050	90
No. 23 Brick, stone foundation.... slate roof.....	3,290	90
No. 24 Frame, concrete foundation, shingled roof....	3,020	90
No. 24 Brick, stone foundation.... slate roof.....	3,150	90

## THREE-ROOM SCHOOLS.

No. 25 Frame, concrete foundation, shingled roof....	\$3,800	120
No. 25 Brick, concrete foundation.. metal roof.....	4,200	120
No. 26 Frame, concrete foundation, shingled roof....	3,900	120
No. 26 Brick, concrete foundation.. metal roof.....	4,350	120
No. 27 Frame, concrete foundation, shingled roof....	3,950	120
No. 27 Brick, concrete foundation.. shingled roof....	4,200	120
No. 28 Frame, concrete foundation, metal roof.....	4,450	120
No. 28 Brick, stone foundation.... slate roof.....	4,900	120
No. 29 Frame, concrete foundation, metal roof.....	4,400	120
No. 29 Brick, stone foundation.... slate roof.....	4,800	120
No. 30 Frame, concrete foundation, shingled roof....	4,450	107
No. 30 Brick, stone foundation.... metal roof.....	4,950	107
No. 31 Frame, concrete foundation, shingled roof....	4,450	120
No. 31 Brick, stone foundation.... metal roof.....	4,950	120
No. 32 Frame, stone foundation... metal roof.....	4,500	120
No. 32 Brick, stone foundation.... metal roof.....	5,000	120
No. 33 Frame, concrete foundation, metal roof.....	4,750	130
No. 33 Brick, stone foundation.... slate roof.....	5,300	130
No. 34 Frame, concrete foundation, metal roof.....	5,000	120
No. 34 Brick, stone foundation.... slate roof.....	5,550	120
No. 35 Frame, concrete foundation, metal roof.....	5,200	120
No. 35 Brick, stone foundation.... slate roof.....	5,750	120
No. 36 Frame, concrete foundation, metal shingles..	5,400	120
No. 36 Brick, stone foundation.... slate roof.....	6,000	120

NOTE:—The foregoing estimate of cost includes every item except:—bell, heating system, fences, sidewalks or sheds, drains or closets, plumbing or well, land and furniture.



## APPENDIX B.

RECOMMENDED FORM OF SPECIFICATIONS TO BE ADAPTED  
BY SCHOOL BOARDS

SPECIFICATION OF LABOUR AND MATERIAL NECESSARY IN THE ERECTION AND  
COMPLETION OF A ROOM SCHOOL TO BE BUILT IN SECTION  
COUNTY ACCORDING TO PLANS AND SPECIFICATIONS  
PREPARED FOR THE PURPOSE BY

## BRICKWORK

*Excavate* to the necessary depths, forms and dimensions scaled on plans for basement, trenches of walls, drains, etc., and spread the earth on lot where directed by the Architect or School Board.

*Build* wooden trench for foundation wall as high as grade line and fill in with concrete to the thickness shown on foundation plan with footings eight inches deep and twelve inches broader than wall. This concrete to be composed of four parts of *broken stone* or gravel that will pass through a two-inch ring, two parts of clean, sharp sand and one part of Portland cement, all thoroughly mixed dry, then wet, to bring it into the consistency of paste, and dump into the trench, to be well tamped as laid and levelled off to receive brickwork.

Leave opening in wall for fresh air registers four feet above ground line, and continue to underside of joist in basement.

Footing of internal walls of basement will also be concrete, built in wooden trenches, as specified for outside walls, levelled off at proper heights for joists.

That portion of foundation walls exposed to view will be faced with Randon coursed stone work laid up and backed with cement.

*The entire cellar floor* will be covered with similar concrete, and finished off with three-quarter-inch coat of Portland cement and sand, in equal proportions laid so as to give gradual fall to bell traps in floor.

*Sills* of all windows and doors in basement and platforms outside of entrance doors will also be concrete as above specified with smooth finish, also chimney caps and sills in ventilating flue.

*Plaster* up the inside of all concrete walls with cement, leaving a smooth finish on inside of playroom in basement.

*Brickwork* from the top of foundation wall to underside of roof boards, build brick walls in the thickness of concrete as high as top of joists and a brick and a half thick from that up. All brickwork to be of the best quality according to purpose for which it is to be used. All face bricks to be hard burned and red stock, laid in brown mortar with raked joints, Canadian bond, with every fifth course a header. Beam fill all rafters and make tight around all frames. Build smoke and ventilating flues as shown on plan. Form alcove for heating flues to be carried up above floor of classroom and arched over on top and have "Air" register in classroom eight feet above floor. The smoke flue to have soot door and thimble for pipe from furnace the size required. The flue will be twelve inch diameter, twelve gauge galvanized iron pipe and secured in position by brick lugs.

*Sills* for all windows will be eight inches by ten-inch cut stone with drip.

All walls will be laid up plumb straight and level; joints three-eighth inches thick in sound lime mortar composed of clean sharp sand and well slaked lime thoroughly mixed.

Provide concrete heads and sills for all openings where shown, finished smooth and clean. Turn arches where shown upon proper centres. All sills to have drip.

### CARPENTER WORK

#### *Sizes of Scantling*

*Joists* of floor will be twelve inches by two inches at sixteen inch centres, and bridged twice to each span with two-inch by two-inch bridging, well nailed in between joists. Joists of landings may be two-inch by six inches, sixteen inch centres, well supported. The ceiling joists to be two-inch by eight-inch at sixteen-inch centres, notched into two-inch by four-inch scantlings that are bolted into sides of roof trusses. The joists will be one inch lower than the bottom of roof trusses, these will also be bridged one row to each span.

*The studding* will be four-inch by two-inch at sixteen-inch centres with two-inch by four-inch bottom plate, and two thicknesses of two-inch by four-inch top plate.

*The rafters* will be two-inch by six-inch at sixteen-inch centres. Wall plates eight-inch by two-inch.

*Hips and valleys* two-inch by eight-inch.

*Ridges* two-inch by ten-inch.

*Timbers* of roof trusses to be as marked on plans with six-inch by eight-inch purlins.

#### *Description of Lumber*

*The whole of the lumber* to be used in the building for the bill stuff generally to be of best quality and local pine.

#### *Inside Woodwork*

Throughout, unless otherwise specified, to be good quality of local pine thoroughly kiln dried and free from large, loose, black or frequent knots.

*Finish floors* to be maple, thoroughly kiln dried.

*Treads of stairs* to be maple, also thoroughly kiln dried.

#### *Workmanship.*

*The Carpenter* and Joiner work to be executed in the most efficient and workmanlike manner. The contractor to give the work his personal attention, and to place an intelligent foreman on the work. All work to be done in strict accordance with plans and details and specifications.

Put turning pieces of wood over all openings to support rowlock arches.



### *Frames*

All the outside brick walls on ground and first floor will have two inch by one-inch furring strips, fixed true and straight, sixteen-inch between centres, well nailed to two and a half inch by three-eighth inch wall strips built into brick walls every two feet in height.

Build pieces of scantling on inside of walls where necessary to form nailing for frames, and provide and fix all necessary two-inch by three-quarter-inch grounds for plaster work around all openings.

### *Joists*

The joists to be trimmed for chimneys, staircases, ventilating ducts, etc.

### *Cutting*

Do all necessary cutting that may be required by furnace men, and trim all heating and ventilating openings, and repair after all trades.

### *Fresh and Foul Air Ducts*

Form fresh air duct under ceiling of furnace room, build fresh air box seven-eighth-inch tongued and grooved to connect to furnace. In ceiling of boys' and girls' rooms in basement under the row of windows of classroom, build a tight box eighteen-inch square. Carry a similar box down to floor in basement and along girls' playroom to the ventilating stack, and put hinged door in same, all left perfectly tight. Put hinged door in fresh air box at front window. These doors in fresh and foul air ducts are to form dampers, and will work from the outside of box. Connect foul air box into box underneath row of windows in class room, the wainscoting going down over face of same. Insert near floor in face of this wainscoting under windows, register faces for the exit of foul air, in positions shown on section.

### *Roof.*

Roofs to be framed and put together as indicated, supported on roof trusses which carry purlins, as before specified. The roof trusses to be formed as indicated on section with three one-inch wrought iron king bolts running through the depth of truss, having raised threads and large washers and nuts. Put wrought iron cap over knee of each truss, perforated for these king bolts. This cap to lip over on to each of the timbers, and be nailed thereto. Bolt the lower ends of principal ratters to trusses, each with two one-inch bolts running through the lower chord of truss, and on each side of lower chord of each truss bolt on a piece of two-inch by four-inch scantling, flush with the bottom edge of truss. This will carry the ends of the joists. But the bottom of joists will notch into same, so as to bring the bottom of the joists one inch below the bottom of chords as before specified.

The rafters of the roof will bear on the purlins on sides of buildings, and the end rafters will bear on sides of trusses, and the wall ends of all rafters on eight-inch by two-inch wall plates, bedded into brick wall. The lower end of rafters will project out and have two-inch by four-inch



outlooks nailed level on to ends of same. Form dressed moulded cornices as shown and to detail.

*Board* the roofs in with seven-eighth-inch matched boards, covered with one layer of fourteen pound asbestos paper, and shingle with best British Columbia shingles. The hips of roof will be shingled twice, and the ridge shall have galvanized iron covering as indicated on elevation. In the projecting eave of cut in a cornice and line it with  $\frac{7}{8}$ -inch stuff, making the bottom of this trough to fall to the various rainwater outlets. This will be lined with galvanized iron turned well up under shingles and over edge of cornice moulding.

Put four-inch octagonal conductors of galvanized iron to the main roof with goose neck bend at top and elbow at bottom near ground.

### *Stairs*

The stairs from basement to first floor will have eleven-inch by one and three-eighth-inch maple treads, seven-eighth-inch Pine Risers, two-inch Open Pine Strings and nosing of stairs returned on face, two-inch by two-inch Birch balusters, six-inch by six-inch square Birch Newels with moulding mitred around top, and four-inch by three-inch moulded Birch handrail.

### *Wainscotting*

Wainscot the walls of class rooms four feet high with similar capping and base, sheet walls of entrances and down to basement four feet high with similar sheeting. All sheeting to be of good quality, to be painted, but neatly smoothed up, kiln dried and free from objectionable or frequent knots of any kind. *All doors and windows* will have seven-eighth-inch jamb with stops screwed on. The doors will have fan-lights two feet high above doors, made to work with patent adjusters. The inside doors will be one and three-quarter inches thick with five moulded panels, all hardware, etc., necessary. Outside doors will be two and one-quarter inches thick, transom, fan-light, etc., heavy metal hardware, large latch locks, etc., complete. The windows will have one and three-quarter inch sash. Those in basement hinged to open inwards and fasten back, bolted, hinged, etc. Those on first floor to be double hung with weights, pulleys, sash cord, etc. Window panes will have frames, and sash will have lifts and fasteners. Trim of all doors and windows will be formed with six-inch by seven-eighth-inch band with raised mouldings at outer edge and small moulding on inner edge. Windows to have stools, caps, etc., complete. *Blackboards* to be trimmed similar to windows and to have three-inch brush trough at bottom. Trusses will provide blackboards, either slate or composition. Carpenter will see that they are put on and kept in proper shape until completion of building.

### *Flooring*

Stair landings and floor of class rooms and cloak-room will be seven-eighth-inch thick maple and three-inch wide, all driven up tight, and to be guaranteed free from shrinkage. Lay seven-eighth-inch hemlock underflooring underneath all maple floors, with two layers of ten pound asbestos between floors. *Fit up* fuel bin partition in boiler-room with two-inch planks, and four-inch by four-inch supports.

*Put up seat* in playrooms with one and three-eighth-inch top, properly supported, carried on strong brackets. Foul air duct will also form seat in playroom. In each cloak-room furnish and fix three dozen clothes hooks of a good strong make, satisfactory to Architect or Committee.

### PLASTERING

All ceilings, underside of stairs, all entrances up and down, and all walls, ceilings, partitions of ground and first floor, to be lathed with good pine sawn laths, one and one-quarter inches wide, free from knots or gum or other defects. All well nailed and joints properly broken.

*Clean away* from the premises all rubbish that may have accumulated from time to time caused by the various trades during the progress of the work, and scrub and wash with clean water all woodwork and glass that may have been splashed or in any way affected by plastering.

*Plastering.* The entire ceiling and up both sides of staircases, under side of stairs and walls, partitions and ceilings of ground and first floor, also ventilating flues, portion of hot air flue visible through the register to be plastered in best two-coat work. The first, or brown coat composed of clean sharp sand, well slaked lime, long cow hair and clean water in suitable proportions to make a first class job. This coat to be well floated and finished with coat of white putty, gauged with Plaster of Paris and left a white, smooth, straight job. Run lathing and first coat of plaster behind wainscoting.

The exterior surface of frame wall forming vestibule will be lathed, plastered, and finished in cement stucco.

### PAINTING AND GLAZING

*Painting.* All inside and outside dressed woodwork, where not otherwise specified, to receive three good coats of linseed oil paint, varying in colours as may be directed. Knots to be first shellaced and nail holes puttied up.

*Oiling.* All hardware floors and treads, landings, handrails, newels, and balusters of stairs to receive two coats of hot linseed oil well rubbed in and not allowed to stand on the surface.

*All Galvanized Iron Work* to be painted as above in three coats.

*Glazing.* Windows in class rooms and staircase and landings over entrances to be glazed with double diamond star glass, and all glass to be well sprigged and puttied and left whole at completion of building.

Basement windows will be sixteen-ounce glass.

*Ceiling of Basement.* Cover all ceilings of basement with steel sheet one-quarter-inch brading.

## APPENDIX C.

## RECOMMENDED FORM OF CONTRACT

## THIS AGREEMENT

made and entered into this                      day of                      A.D. 19

By and Between

of the                      of

Province of

as the part      of the First Part (hereinafter called the

Contractor      ) and

of the                      of

Province of

as the part      of the Second Part (hereinafter

called the Proprietor      ).

## WITNESSETH :

First. The said part      of the First Part DO      HEREBY for  
heirs, executors, administrators and assigns,  
COVENANT, PROMISE AND AGREE to and with the said part  
of Second Part      heirs, executors,  
administrators and assigns in the manner following, that is to say :

That                      shall or will for the consideration hereinafter  
mentioned, on or before the                      day of  
A.D. 19                      well and sufficiently execute  
and perform, in a true, perfect and thorough workmanlike manner, the

required in the erection and completion of

for the part      of the Second Part, on lands and premises situate at  
in the                      of                      in the  
of                      in the Province of  
agreeably to the plans, drawings and specifications prepared for the said  
works by                      Architect      , to the  
satisfaction and under the direction and personal supervision of



Architect ; and will find and provide such good, proper and sufficient material of all kinds whatsoever as shall be proper and sufficient for completing and finishing of all the works of said buildings shown on the said plans and mentioned in said specifications, and signed by the Contractor , within the time aforesaid, for the sum of

Dollars of lawful money of Canada.

Second. That said part of the Second Part DO HEREBY for heirs, executors, administrators and assigns, COVENANT, PROMISE AND AGREE to and with the said part of the First Part heirs, executors, administrators and assigns, that the said part of the Second Part heirs, executors, administrators and assigns, shall and will, in consideration of the covenants and agreements being strictly executed, kept and performed by the said part of the First Part, as specified, well and truly pay or cause to be paid unto the part of the First Part, or unto heirs, executors, administrators and assigns, the sum of

Dollars of lawful money of Canada, in the manner following :

per cent. to be paid fortnightly on account of the contract including material delivered and all additional works, as the work shall proceed, on the value of the same, which value shall be in proportion to the amount to be paid for the whole of the works and additional works, the balance of the contract and all extras to be paid within days from the completion of the said works, and after the Contractor shall have rendered to the Architect a statement of balance due to

And it is further understood that in case of several Contractors being employed on the work, no trade is to be considered complete till the other several contracts are also completed.

PROVIDED, that in respect of the said payments, a progress certificate shall be obtained from and signed by Architect , and that consider the payment properly due, said certificate, however, in no way lessening the total and final responsibility of the Contractor , neither shall it exempt the Contractor from liability to replace work if it be afterwards discovered to have been badly done, or not according to the drawings and specifications, either in execution or materials.

AND PROVIDED FURTHER, that if required, in each case a certificate shall be obtained by the Contractor from the Registrar of the where Mechanics' Liens may be recorded, and signed by said Registrar "that he has examined the records, and finds no Mechanics' Liens or claims recorded against the land of the Proprietor , " on account of the said Contractor ; and thereupon and on or before the

said day after the completion of the said works, a final certificate shall be obtained from and signed by

Architect certifying to the balance due to the Contractor on the said Contract, and for all extras in respect thereof. But if, from any reasonable cause whatever, such final certificate should not be obtained, or that the giving of the same should be refused by the Architect, the said Contractor, shall nevertheless after the expiration of the said

days be entitled to proceed at law to enforce payment of the balance due to under the said

Contract, and for all extra work in respect thereof, and the production of a final certificate shall not in any case be a condition precedent to right to recover the amount justly due and owing to

and such balance and the amount due in respect to extras shall be recovered, if justly due, without the necessity for the production in evidence of any final certificate, and the right of action hereby provided shall not be controlled by the arbitrations clause hereinafter set forth.

AND IT IS HEREBY FURTHER AGREED, by and between the said parties as follows, that is to say :

First. The Specifications and Drawings are intended to co-operate, so that any works shown in the Drawings and not mentioned in the Specifications, or *vice versa*, are to be executed the same as if mentioned in the Specifications and set forth in the Drawings, to the true intent and meaning of the said Drawings and Specifications.

Second. The Contractor, at own proper costs and charges, to provide all manner of labour, material, apparatus, scaffolding, utensils, cartage of every description, needful for the due performance of several works, and render all due and sufficient facilities to the Architect, Superintendent and Clerk of the works, for the proper inspection of the work and materials, and which are to be under their control; and they may require the Contractor to dismiss any workman or workmen who may be incompetent, the workmen and Contractor being only admitted to the ground for the purpose of the proper execution of the works; and the Contractor shall and will during the whole time of building give due personal attendance, either by or by a competent Foreman for each Trade as may be required upon the execution of all works aforesaid, and take effectual care that the same be carried on, executed and performed with such execution and dispatch, to be in every respect completed by the day provided for the completion thereof, Subject only to such provision for an extension of time as is herein provided. The Contractor shall deliver up the herein mentioned works to the Proprietor in perfect repair, clean and in good condition, when complete. The Contractor shall not sublet the works, or any part thereof, without the consent, in writing, of the Architect.

Third. Should the Proprietor or Architect at any time during the progress of the said works, require any alterations of, or deviations from, additions to, or omissions in, the said plans and specifications, shall have the right and power to make such



change and changes, and the same shall in no wise affect or make void the contract, but the value of work omitted shall be deducted from the amount of contract by a fair and reasonable valuation. And for additional work required in alterations, the amount to be paid therefor shall be agreed upon before commencing additions, and such agreement shall state also the extension of time (if any) which is to be granted by reason thereof; provided that in estimating the value of such alterations or additions regard shall be had to any loss, outlay or damage, necessarily and reasonably sustained by the Contractor in the preparations to comply with the original drawings and specifications.

Fourth. In case the works are not carried on with such expedition and with such materials and workmanship as the Architect, Superintendent, or Clerk of the Works may deem proper, then, with the special and written consent of the Proprietor, the Architect shall be at liberty to give the Contractor                      days' notice in writing to supply such additional force or material as in the opinion of the said Architect is necessary, and the Contractor failing to supply the same, it shall then be lawful for the said Proprietor to dismiss the said Contractor and to employ other persons to finish the work in such manner as the Architect may direct, and in accordance with the plans and specifications; and all payments made on account thereof shall be deemed a payment on account of the contract, but without prejudice to the right to recover any money in excess of the contract price, which may be paid for so finishing the works, or any damage caused by breach of this contract. But if any balance on the amount of this contract remains after completion, in respect of work done during the time of the defaulting Contractor, the same shall belong to  
or the person legally representing

Fifth. Should any question arise respecting the true construction or meaning of the Drawings and Specifications, or should any dispute occur from any cause whatever during the continuance of this Contract, the same shall be referred to the award, order, and determination of the Architect, whose award shall be final and conclusive subject only to the exception provided for in clause sixth in reference to the value of any claims for extras or deductions.

Sixth. Should any dispute arise as to the value of any claim for extras or deductions after the Architect                      given                      final certificate in writing on the completion of the contract, the same shall be referred to two arbitrators, one to be chosen by the Proprietor and the other by the Contractor, and in case of disagreement the two arbitrators shall appoint a third, and their award and decision, or that of any two of them, shall be final and conclusive, and binding upon all parties to this contract, the submission and reference to be in writing under seal, and to be signed by the Proprietor and Contractor and duly witnessed and the said award of the arbitrators or any two of them to be also in writing, duly signed, sealed and witnessed, shall, if required, be made a rule of the High Court of Justice for Ontario,

, when so





Thirteenth. The Proprietor is not to be responsible to any Contractor for the non-completion of a prior Contractor's work, or any particular portion thereof, at the time named, but in case a Contractor is unable to get possession on account of the failure of a prior Contractor to complete his work within the time limited in his Contract, such subsequent Contractor shall be entitled to have for the completion of his Contract such additional time as the Architect may deem necessary or just, and such extended time shall be substituted for the time for completion named in this Contract.

Fourteenth. All drawings and specifications in possession of the Contractor shall be returned to the Architect by the Contractor before the final certificate is issued.

Fifteenth. The Contract to be in duplicate if so desired by either of the contracting parties.

IN WITNESS WHEREOF, the said parties to these Presents have hereunto set their hands and seals, the day and year first above written.

SIGNED, SEALED AND DELIVERED,  
IN THE PRESENCE OF















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